ROYAL STATISTICAL SOCIETY
2 - APR.1900

BOROUGH OF WEST HARTLEPOOL.

Annual Reports

OF THE

MEDICAL OFFICER OF HEALTH

AND THE

SANITARY INSPECTOR.

for 1899.

1900.

ALEX. SALTON, TYPO.

With the Medical Officer's Compliments.

MUNICIPAL BUILDINGS,
WEST HARTLEPOOL.

STATISTICAL SOCIETY
2 - [illegible] 1900

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STATISTICS.

	1881.	1891.	1899.
Area in acres to High Water Mark	2,300	2,470	2,665
,, Low Water Mark..............	2,518	2,763	2,958
Inhabited Houses.................................	5,252	7,531	*11,347
Uninhabited Houses	——	180	*250
Population..	29,448	42,710	*61,000
Average number of persons per inhabited house	5·607	5·671	*5·423
Density per acre (to High Water Mark)	12·80	17·29	*22·48
,, ,, (to Low Water Mark).........	11·69	15·45	*20·62

BRITISH MUSEUM 30 APR 65

POPULATION AND DENSITY OF EACH WARD.

Ward	Population (Estimated)	Area in Acres L.W.M.	Density per Acre L.W.M.	Area in Acres H.W.M.	Density per Acre H.W.M.
North	7,672	541	12·33	541	12·33
West	10,159	239	42·5	239	42·5
Park..............	8,425	298	29·15	298	29·15
South-West......	10,290	422	24·38	422	24·38
Seaton	2,150	781	2·75	619	3·47
South-East	8,221	223	36·87	186	44·2
Central	9,497	65	146·1	65	146·1
North-East	4,586	389	11·78	295	15·54
	61,000	2,958	20·62	2,665	22·48

* Estimated.

HEALTH COMMITTEE.

ALDERMAN GRAINGER *(Chairman).*
,, FURNESS.
,, CLARKSON.
,, RICKINSON.
COUNCILLOR BIRKS.
,, DYER.
,, EVERTON.
,, LOAN.
,, LOHDEN.
,, JOHNSON.
,, ————

His Worship the Mayor is Ex-Officio a member of all Committees.

FRED H. MORISON, M.D. Edin.; D.P.H.R.C.S.I.,
Medical Officer of Health.

Borough of West Hartlepool.

MEDICAL OFFICER'S REPORT

For the Year Ended 31st December, 1899.

To the Chairman and Members of the Health Committee.

Sir and Gentlemen,

I have the honor of submitting to you my Annual Report, this year, I am afraid, not so complete as I should have liked, as I have not been in office for the complete year.

My instructions from the Local Government Board state that "this report is to be for the year ending 31st December, or if the officer at that date has not been in office for a whole year, then for so much of the year as has elapsed since his appointment."

I have, however, endeavoured to make the Report as complete as possible with such data as I have been able to collect.

I have to express my thanks and indebtedness to Mr. J. W. Brown, Borough Engineer, to Mr. W. Gill Hodgson, Borough Accountant, and Mr. Councillor Lamb; and to the Members of the Sanitary Staff who have given me assistance in its preparation; and to the Members of the Health Committee for their invariable kindness to me during my term of office.

I have the honor to be, Gentlemen,

Your obedient servant,

FRED. H. MORISON,

Medical Officer of Health.

GEOLOGY.

The chemical and physical constitution of the soil, and the configuration of its surface, have an important bearing upon many hygienic questions, especially as regards climate, sites of houses or towns, water supply and burial grounds, so I think a few remarks about the character of the ground on which West Hartlepool is built may with advantage be included in this report.

West Hartlepool is largely built on Boulder Clay which overlies Magnesian Limestone. This Magnesian Limestone extends a great distance both West and North and terminates in a downward fault showing New Red Sandstone to the Southward.

The line of division between the Magnesian Limestone and the New Red Sandstone is a straight one ranging from a point on the coast about half-a-mile North of the Long Scar through Rift House and Brearton.

All North and North-West of this line, as before mentioned, is Boulder Clay upon the Magnesian Limestone.

South and South-East of this line the limits of the Borough are Boulder Clay overlying the New Red Sandstone.

This Boulder Clay varies in depth very considerably. In some few instances it is not more than a few feet in depth, there being, as is well known, an outcrop of limestone near the Water Works.

Magnesian Limestone is exposed on the cliffs at Hartlepool.

There is also an outcrop and the stone is quarried a little West of the Park; there are further outcrops near Hart and Hesleden. These outcrops point to natural anti-clines and this would seem to indicate that between these outcrops there is a large area forming, as it were, a basin or hollow; and the town is largely built upon the clay which has been deposited in this basin.

On the New Red Sandstone the depth of Clay also varies in large degree. In some recent excavations it was found that there was not more than some five or six feet in depth of this Boulder Clay, beneath which was clean sand and this again was overlying Red Marl, while in other cases the layer of Boulder Clay has been found to be of very great thickness.

In certain places outcrops of sand and limestone gravel have been found, as in Park Road, near the Presbyterian Church; also on the rising ground near the West end of Park Road, as well as in Grange Road east of Wooler Road, and it is thought that a narrow belt of this sand and gravel extends from Low Throston nearly to Greatham. This belt is known to widen out westwardly at the centre to include Dalton Piercy and part of Elwick.

PLATE I.

METEOROLOGICAL CHART

(BAROMETER AND RAINFALL),

1899.

Observations taken at 10 a.m., under the direction of Mr. H. Lamb,
Lynn Street, West Hartlepool.

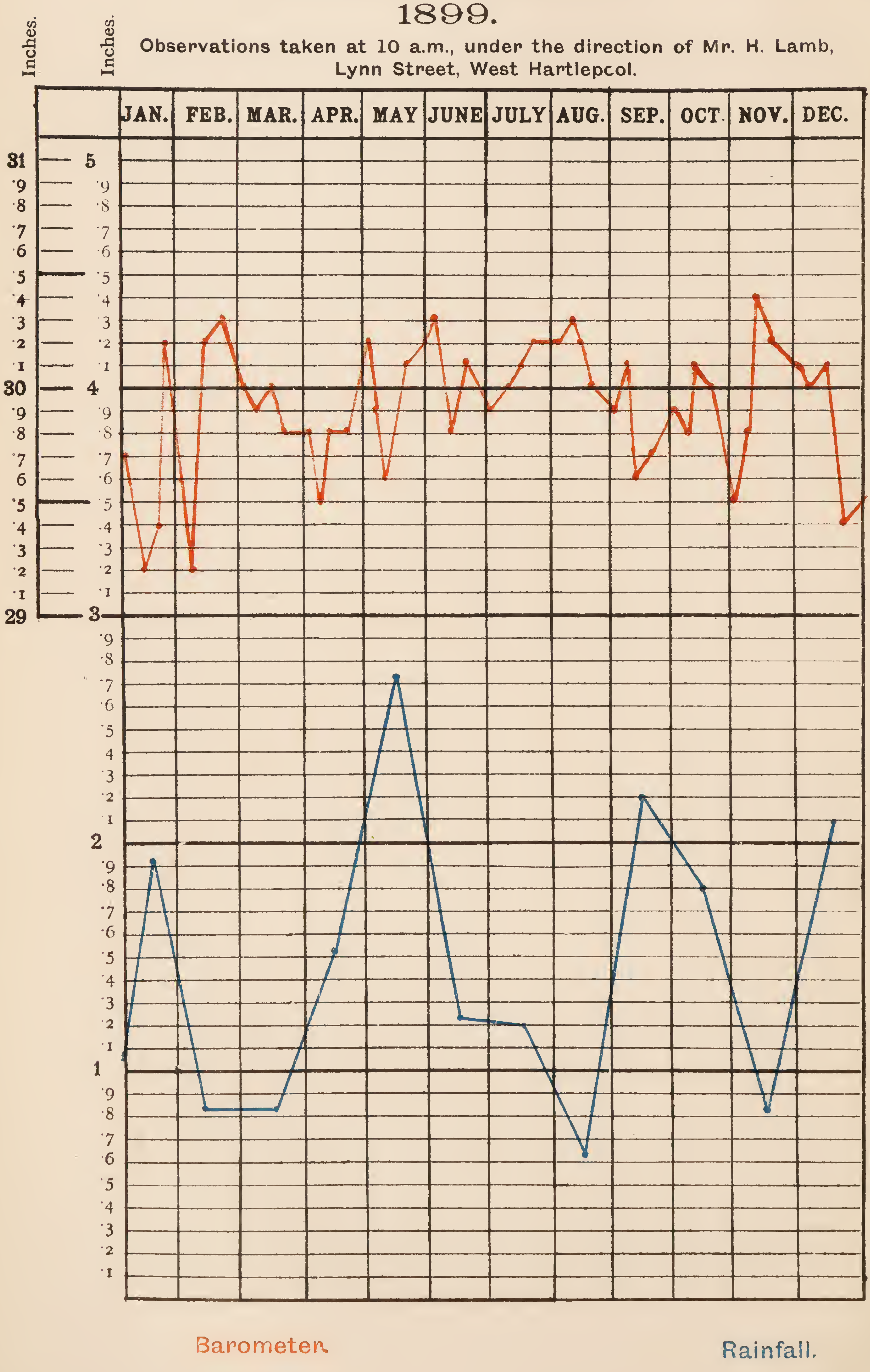
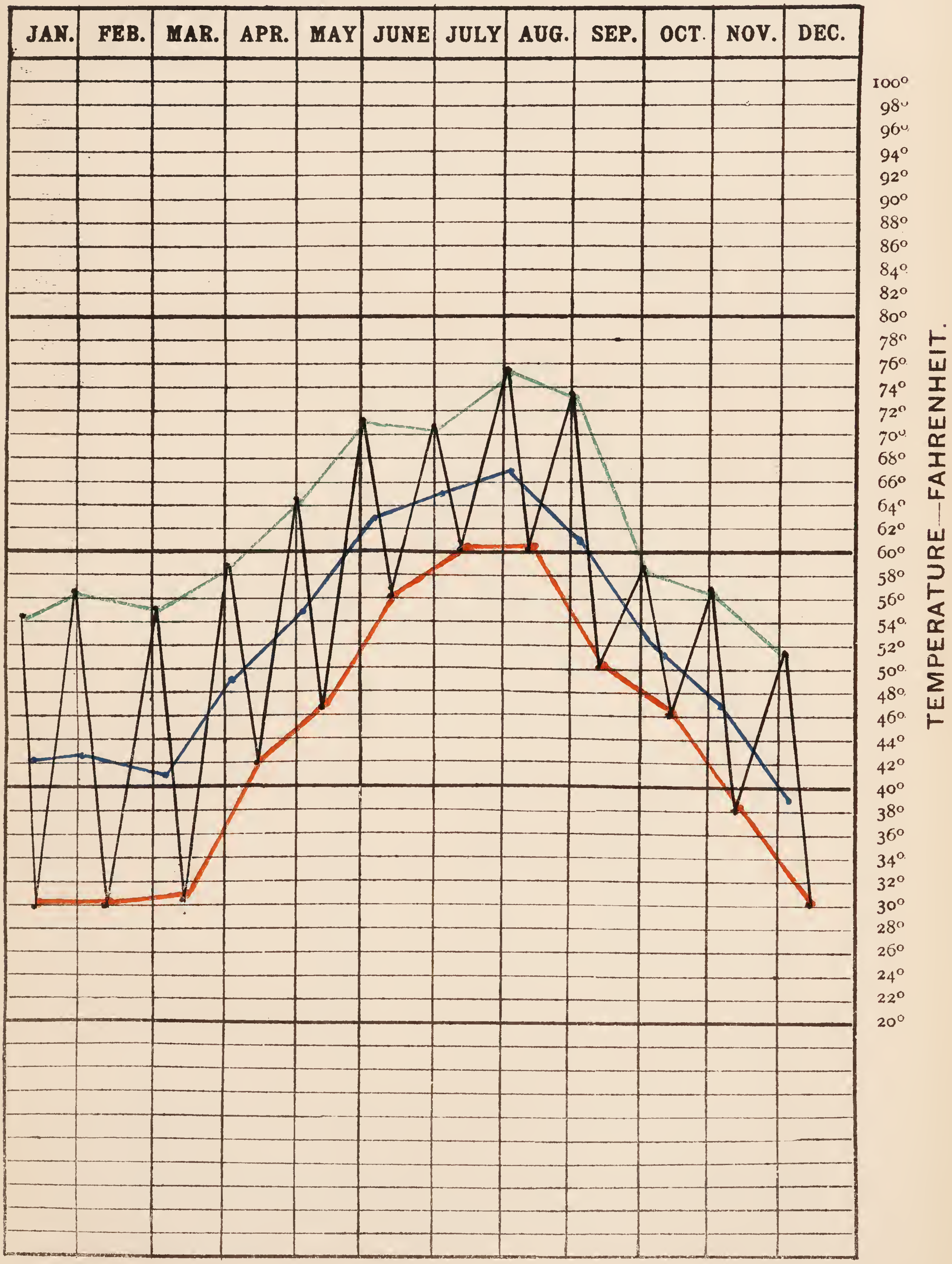


PLATE II.

METEOROLOGICAL CHART
(THERMOMETER),
1899.

Observations taken at 10 a.m., under the direction of Mr. H. Lamb, Lynn Street, West Hartlepool.



Minimum Curve.

Maximum Curve.

Mean Curve.

The foundation of Seaton Carew is similar to that of West Hartlepool in so far as it lies on Boulder Clay, but unlike West Hartlepool this Boulder Clay overlies Red Sandstone.

To the East of Whitby Street for a large area the ground was levelled up with ships' ballast, composed of sand, marl and gravel.

This "made ground" varies in depth from a foot or two to six or seven feet.

METEOROLOGY.

In endeavouring to trace any connection between Meteorological conditions and Epidemics, it is obvious that there are only two circumstances likely to have any effect. First, temperature, and secondly, rainfall or humidity; and with regard to the first, since the temperature curve will always have a maximum in the Summer and minimum in the Winter, it seems more important to consider the variations of temperature from the normal conditions than the absolute temperature itself.

By reference to the charts of rainfall and temperature, and comparing them with the charts showing the various causes of death, the relations between atmospheric conditions and disease will be demonstrated.

NOTE.—Upon Plate I. the reading of the barometer is shewn weekly.
Rain Gauge. Diameter of funnel 5 inches.
Height of top above ground 63 feet.
Do. sea level 84 feet.

Month	Total Depth	Greatest Fall in 24 Hours		Number of Days on which ·01 or more fell
	Inches	Depth	Date	
January	1·990	·260	10th	16
February	·870	·260	13th	10
March	·870	·225	30th	14
April	1·585	·350	20th	16
May	2·795	·800	20th	16
June	1·220	·330	21st	9
July	1·190	·250	15th	11
August	·625	·280	29th	5
September... ...	2·200	·780	21st	14
October	1·790	·810	1st	9
November	·850	·190	7th	10
December	2·035	·440	5th	17
Total ...	18·020	4·970		147

It will be noticed on comparing this Plate with Plate II. that August was the driest month, it was also the hottest, and the mortality from Diarrhœa was abnormally high.

Upon Plate II. it will be seen that January, February, March and December were the coldest months of the year.

It will be noticed that the thermometer steadily rises from March, till it attains its maximum in August, and again steadily declines.

Plate I. shows that May was the wettest month of the year; from May the rainfall steadily declines till it reaches its minimum in August. In Plate VI. it is shewn that the high mortality in August and September was due to Epidemic Diarrhœa. Both excessive dryness and excessive wetness of soil lessen diarrhœa mortality, and the rise in the death rate does not occur till the mean temperature of the 4 ft. soil thermometer reaches 56° F. On Plate II. it will be seen that the average temperature for June, July and August was about 62°—66°, so that looking at these two Plates (I. and II) together, we would expect meteorological conditions favourable to diarrhœa would commence somewhere about July or August. Plate VI. shews the rise in the diarrhœa mortality to begin in July, attain its maximum in August, and again decline in September, when we have a greater rainfall and a considerable drop in the mean temperature for the month.

POPULATION.

In making an estimate of the population many factors have to be considered.

The Registrar General bases his estimates upon the assumption, that the population will increase in the same ratio during this decade as it increased during the last decade; but this method is unreliable, as many local circumstances have to be taken into consideration in making an estimate.

At the census of 1891 there were in the Borough 7,711 houses, of which 180 were un-inhabited; the number of houses certified for occupation since that date is 3,886, making a total of 11,597, and of these 250 are now estimated as uninhabited.

The average population per inhabited house at the census of April, 1891, was 5·67, distributed over the various wards as follows:—

North-West	5·26
South-West	5·61
Seaton	5·62
South-East	5·86
Central	5·76
North-East	6·48
Average per house for the whole Borough... ...	5·67

There were in the Parish of Stranton (including Middleton) 696 houses in which more than one family resided, and in the Parish of Seaton Carew there were 35 houses similarly situated. Deducting 31 for the probable number in Middleton and Seaton Rural, there would be about 700 still to deal with. There are now 439 tenements in the Borough as against 504 in 1891. Assuming that the difference have taken separate houses, and that 350 families have taken separate houses since that date, the average number per house would be somewhat reduced.

Taking into consideration, however, the fact that the Wards as constituted in 1891 have now been altered and that the conditions under which the people are now living are, owing to continued prosperity, very much improved, the average per inhabited house will not be so high now as then.

Having regard to these circumstances and to a knowledge of the different districts, the following would appear to be a fair average to take in each Ward :—

North	5.1
West	5·1
Park	5·3
South-West	5·4
Seaton	5·5
South-East...	5·7
Central	5·6
North-East	6·3
Average ...	5·423

Based upon these figures the population works out at 61,373, which is equal to 5·423 per house over the whole Borough, the number for each Ward being :—

North	7,716
West	10,210
Park	8,469
South-West	10,341
Seaton	2,194
South-East	8,265
Central	9,548
North-East	4,630
	61,373

The Local Government Board will accept as evidence of present population the number resulting from multiplying the total number of houses inhabited by the average per house at the last census, which would give us a population of 64,167.

The excess of births over deaths during the last nine years has been about 8,580, and from an examination of these figures, it would appear that the population of the Borough at the 31st December may be fairly assumed to be 61,000.

Estimating the population at this figure, the following is the estimated population of each Ward :—

North	7,672
West	10,159
Park	8,425
South-West	10,290
Seaton	2,150
South-East	8,221
Central	9,497
North-East	4,586
	61,000

MARRIAGES.

During the year 547 marriages were registered against 497 in 1898, an increase of 50.

WATER.

The water supplied to West Hartlepool comes from two sources, the one for domestic purposes only, the other for manufacturing and trade purposes, and is supplied by the Hartlepool Gas and Water Company.

It would be much more satisfactory if the water supply of the Borough was in the hands of the Corporation, as is the case in most large towns.

The domestic supply is derived from deep bore holes in the Magnesian Limestone, before mentioned, which is covered over by the impervious boulder clay.

The water has been repeatedly analysed and found to reach a high standard of purity in all respects, except that it is exceedingly hard, and that it contains a considerable quantity of chlorides.

The presence of chlorides indicates that the strata bounding the water-containing basin at the foot of the boring are not impervious to sea water.

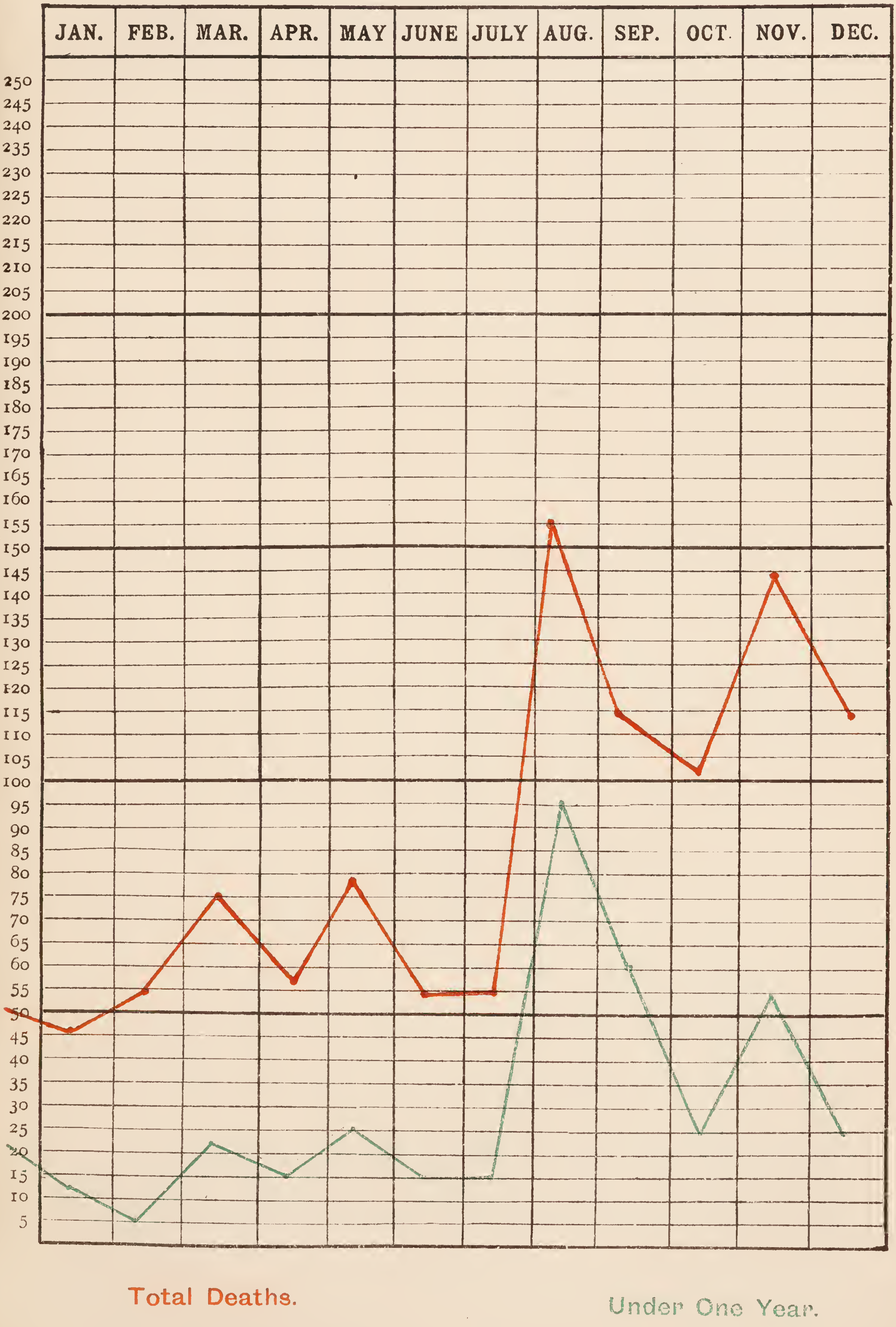
The results of many analyses, invariably shew the water to be of about 40° of hardness; this being so, for domestic purposes it is practically useless, necessitating a soft water supply by rain water either being stored in cisterns or delivered by pipes, both of which methods have their objections.

Nine samples of water have been analysed, all of them except three being Company's water, and were certified to be pure, but hardness was marked in some cases. One sample was from a house in which was a case of typhoid fever ; it was certified to be pure and free from sewage contamination. Of the three samples from wells, two were good, the other unsatisfactory, but has since been remedied, and an analysis shews it to be good. (See Appendices A, B and C).

PLATE III.

CHART SHEWING TOTAL DEATHS EACH MONTH CONTRASTED WITH INFANTILE MORTALITY.

1899.



VITAL STATISTICS.

BIRTHS.

The number of births registered during the year was 2,063. The birth rate per 1,000 of population is thus 33·82 as against

27·55	for 1898
33·37	„ 1897
32·3	„ 1896
34·8	„ 1895
34·4	„ 1894

The number of births in the various Wards during the year is as follows :

North	288
West	364
Park	237
South-West	369
South-East	293
Seaton	71
North-East	112
Central	329
	2,063

The birth rate this year is considerably higher than in 1898, and it is about the average for the previous four years.

DEATHS.

1,053 deaths were registered as occurring within the Borough.

From this must be deducted 6 for persons dying within the Borough, but not belonging thereto, and addition must be made of

1 occurring in H.M. Prison, Durham.
8 „ Hartlepools Hospital.
55 „ The Workhouse, Throston.
3 „ The Port Sanitary Hospital.
1 „ The Infirmary, Sunderland.
4 „ The Asylum, Sedgefield.
2 drowned off Middleton Beach.
1 accidental death in Stockton and Thornaby Hospital.

A total of 75 persons belonging to the Borough, who have died elsewhere, giving a total of 1,122.

The death rate for the year thus being 18·4 per 1,000.

NOTE.—Plate III. shews in a forcible manner the influence the infant mortality has on the total death rate, a rise in the infant mortality curve also accompanying a rise in the total death curve.

Compare with Plates VI. and VII. The high mortality in August being caused by Diarrhœa, that in November by Measles.

In 1898 the death rate was ... 14·8 per 1,000
,, 1897 ,, ,, ,, ... 13·91 ,,
,, 1896 ,, ,, ,, ... 14·5 ,,
,, 1895 ,, ,, ,, ... 16·2 ,,
,, 1894 ,, ,, ,, ... 14·6 ,,
,, 1893 ,, ,, ,, ... 18·3 ,,
,, 1892 ,, ,, ,, ... 16·8 ,,
,, 1891 ,, ,, ,, ... 17·17 ,,

DEATHS OCCURRING PER MONTH

The following table shows at a glance the deaths occurring per month in the Borough for the past five years.

	1899.	1898.	1897.	1896.	1895.
January	57	74	62	49	44
February	60	50	62	66	57
March	79	75	72	58	60
April	64	45	57	41	71
May	84	64	54	58	67
June	59	49	60	42	53
July	66	43	52	70	58
August	164	79	62	61	61
September	119	94	46	53	103
October	101	97	46	74	67
November	152	75	52	58	42
December	117	64	58	64	51
	1,128	809	683	694	734

AGES AT WHICH DEATH OCCURRED.

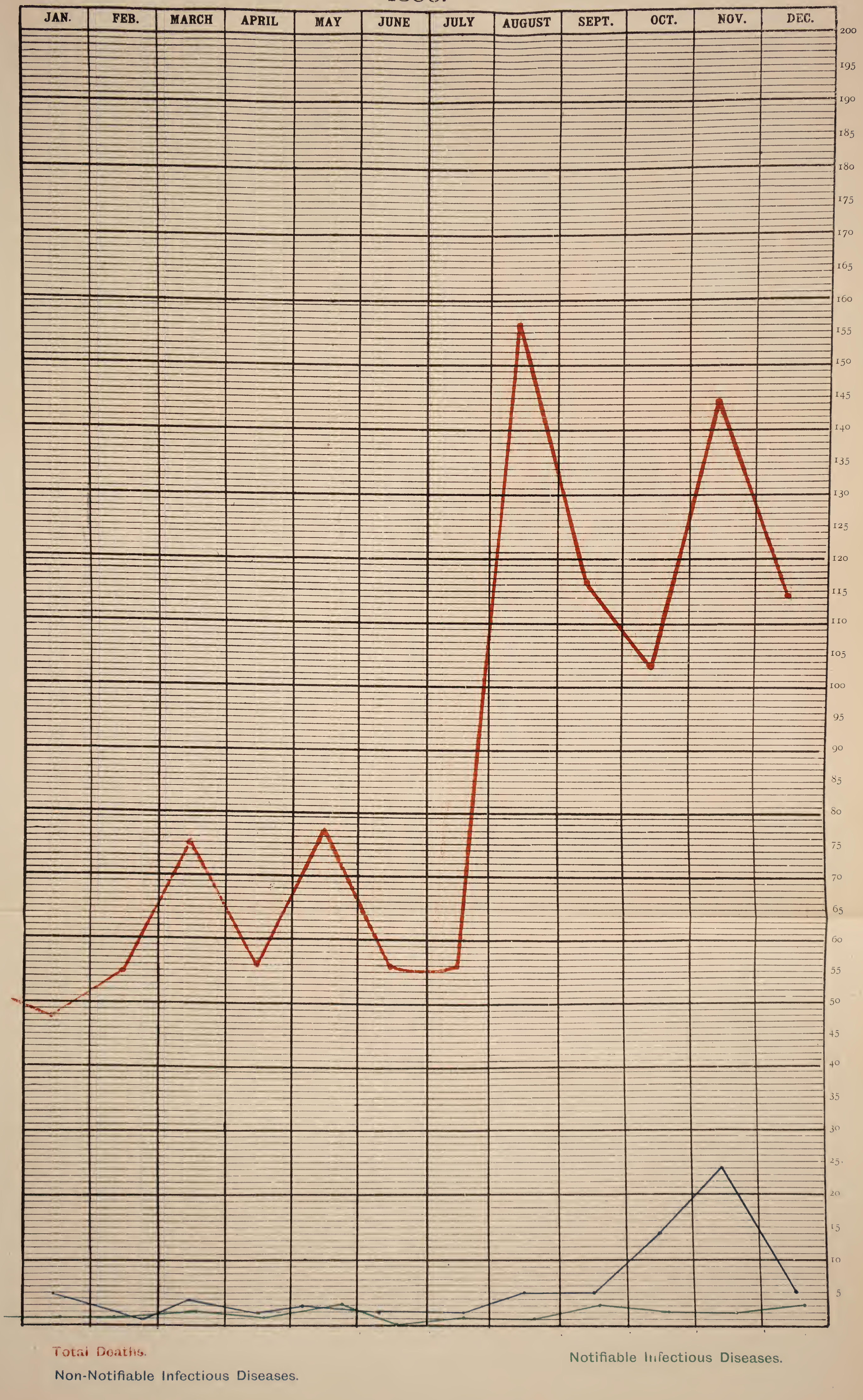
The subjoined table shews the various ages at which death took place:—

	1899.	1898.	1897.	1896.	1895.
Under 1 year	394	290	227	213	259
From 1 to 5 years	190	123	125	126	123
,, 5 to 15 ,,	45	34	26	44	35
,, 15 to 25 ,,	57	39	35	42	34
,, 25 to 65 ,,	287	205	176	170	185
,, 65 and upwards	155	118	94	99	98
	1,128	809	683	694	734

PLATE IV.

CHART SHEWING DEATHS EACH MONTH FROM ALL INFECTIOUS DISEASES CONTRASTED WITH TOTAL DEATHS.

1899.



From the total of 1,128 deaths occurring in the Borough during 1899, as shewn in the two preceeding tables, must be subtracted six for persons dying within the Borough but not belonging thereto.

394 deaths under one year of age gives an infant mortality of 191 per 1,000 births registered.

This infant mortality, it will be noticed, is higher than the average throughout the County. This, in a Borough such as West Hartlepool, should not be. Diarrhœa and Measles account for a good many of the deaths, but if a little more care and attention were given by mothers to the feeding of infants the mortality would be considerably reduced.

If mothers could only be taught that milk and milk alone was quite sufficient food for infants, without stuffing them with bread-boiley, rusks, and the many patent and non-patent foods that are so much in vogue, we would have less cause to regret the large infant mortality.

In this connection perhaps it may be well to mention that in the Borough one Cow-keeper has had his cows tested with the Tuberculin test and guarantees the milk to be free from Tuberculosis, and one Purveyor has been enterprising enough to sterilize the milk, so that it can be guaranteed to be absolutely free from germs. (See appendix E on Feeding of Infants.)

MORTALITY IN THE VARIOUS WARDS.

North ...	... 107	giving a rate per 1,000 of	13·9
West ...	... 135	,, ,,	13·3
Park ...	... 117	,, ,,	13·9
South-West	... 150	,, ,,	17·4
South-East	... 190	,, ,,	23·1
Central ...	... 198	,, ,,	20·8
North-East	... 86	,, ,,	18·5
Seaton ...	... 40	,, ,,	18·6

NOTIFICATION OF INFECTIOUS DISEASES.

Below will be seen the Infectious Diseases notified in the Borough each month during the year. Total for the year, 118.

	Scarlet Fever	Typh'id Fever	Small-pox	Diph-theria	Ery-sipelas	Puerpr'l Fever	Con-tinued Fever	TOTAL
January ...	—	3	—	—	—	—	—	3
February ...	1	1	—	1	2	—	—	5
March ...	4	1	—	2	2	—	—	9
April ...	6	2	—	2	2	—	—	12
May ...	3	1	—	—	1	—	—	5
June ...	1	2	—	1	4	—	—	8
July ...	3	5	—	—	0	—	—	8
August ...	1	4	—	1	1	—	—	7
September ...	9	3	—	1	—	—	—	13
October ...	9	4	—	2	4	1	—	20
November ...	3	3	—	3	7	—	—	16
December ...	1	2	—	2	5	—	2	12
								118

A comparison of the Infectious Diseases reported in the past five years is here shewn :—

	Scarlet Fever	Typhoid	Smallpox	Diph-theria	Erysip-elas	Puerper'l Fever	Contin'd Fever	Total
1899	41	31	—	15	28	1	2	118
1898	96	24	9	11	19	—	—	159
1897	87	39	—	6	23	—	2	157
1896	210	42	2	14	32	2	2	304
1895	184	63	1	23	8	1	3	283

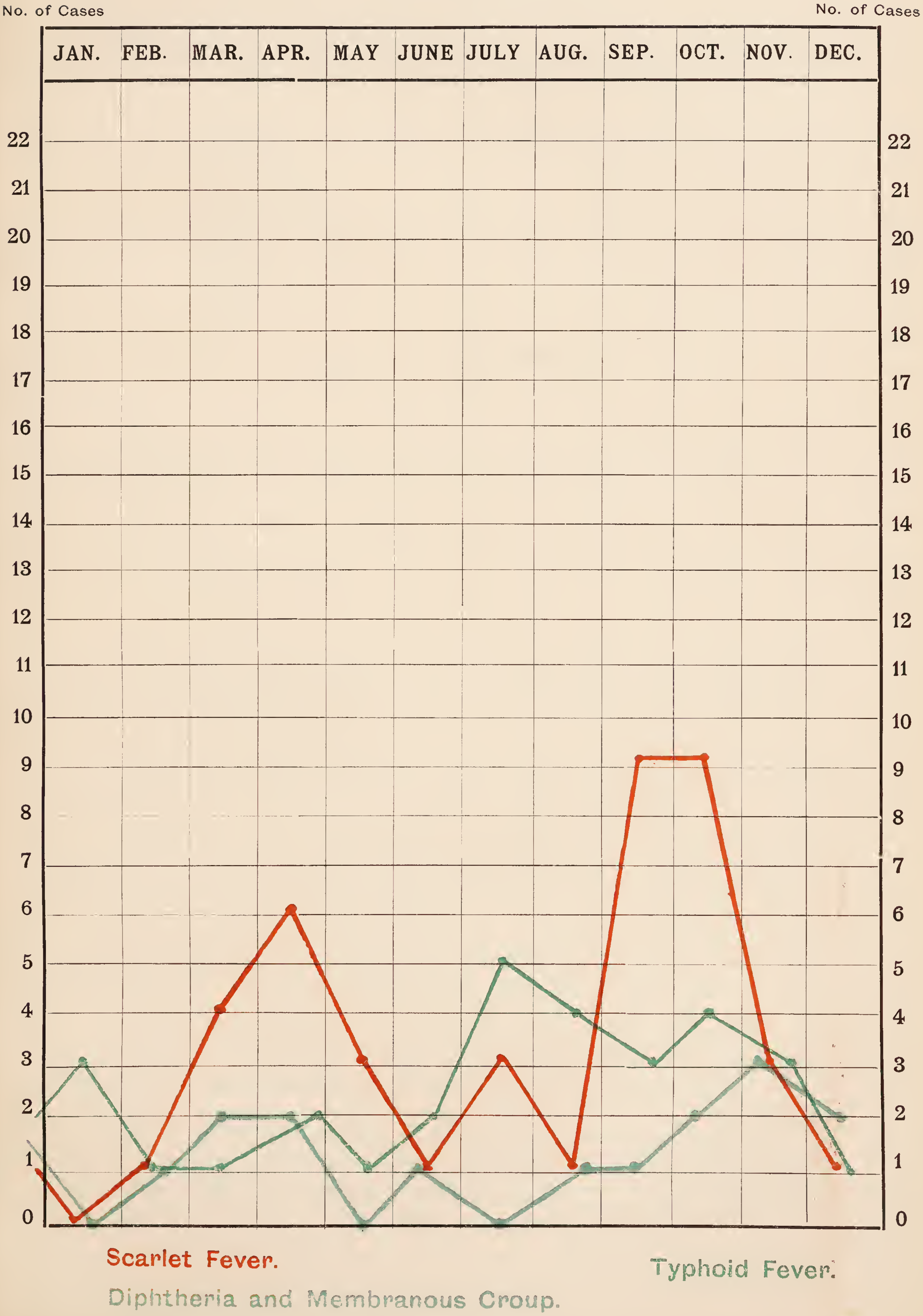
NOTE.—Upon Plate IV. it will be seen what a small influence the Notifiable Infectious Diseases have on the total death rate. Compare this with the non-notifiable Infectious Diseases, principally Measles.

See also Plate VIII. shewing the high death-rate from Respiratory Diseases.

PLATE V.

CHART SHEWING NOTIFIABLE INFECTIOUS DISEASES REPORTED EACH MONTH.

1899.



This decrease in the number of Infectious Diseases notified, must not be allowed to give a sense of false security, because the death rate has been raised by Infectious Diseases which are, at present, not notifiable and which consequently cannot be controlled in their extension.

CLASSIFICATION OF NOTIFIABLE INFECTIOUS DISEASES REPORTED ACCORDING TO WARDS.

Central	21	against	18	in 1898
North-East	3	,,	3	in ,,
South-East	16	,,	34	in ,,
South-West ...	21	,,	8	in ,,
Seaton	6	,,	6	in ,,
North	18	,,	24	in ,,
Park...	14	,,	25	in ,,
West	19	,,	41	in ,,
Total ...	118		159	

16 cases were removed to the Port Sanitary Hospital against 30 in 1898, 27 in 1897, 27 in 1896, and 35 in 1895.

The cases treated in Hospital were:—

Typhoid Fever	7
Scarlet Fever	9

The Corporation has no Infectious Diseases Hospital, their cases being admitted into the Port Sanitary Authority's Hospital, situated about one mile out of the town on the sea banks close to Hartlepool Cemetery.

The cost to the Corporation during the last six years, for their cases admitted, has been £1,285; an average of £214 per annum.

Difficulty is often experienced in persuading parents to allow their children to be removed to the Port Sanitary Hospital, because their own medical man is not allowed to attend.

If some arrangement could be made whereby private practitioners could attend their own cases, this objection would be overcome.

It may be interesting to compare our Vital Statistics with those of the Administrative County of Durham.

It will be noticed from the following table that in the Zymotic death rate we compare favourably with the County, but in the Phthisis death rate we are slightly higher, and our Diarrhœa mortality is considerably higher.

Our Infant mortality, it will be noticed, is above the average.

	County.		Borough.
Estimated Population	808,417	...	61,000
Birth Rate (per 1,000 population)...	35·0	...	33·82
Death Rate	18·8	...	18·4
Zymotic Death Rate	2·35	...	1·25
Infant Mortality (rate per 1,000 births)	179	...	191
Smallpox	nil	...	nil
Scarlet Fever...	0·21	...	00·1
Diphtheria and Membranous Croup	0·09	...	0·11
"Fever" (Typhus, Enteric and Continuous) ...	0·29	...	0·11
Measles	0·50	...	0·57
Whooping Cough	0·37	...	0·41
Diarrhœa	0·99	...	1·8
Enteritis, &c....	1·05	...	—
Phthisis Death Rate	1·14	...	1·42
Respiratory Diseases Death Rate	3·33	...	3·3

SMALLPOX.

No cases of Smallpox have been reported during the year. This, I think, must be considered as very satisfactory, in view of the serious epidemic that has been raging at Hull during the latter months of the year, and the large amount of communication between the two towns.

SCARLET FEVER.

41 cases of Scarlet Fever have been reported with only one death; against 96 cases with two deaths in 1898, and 87 cases with four deaths in 1897.

As to the meteorological conditions which favour the spread of Scarlet Fever, there is a great difference of opinion amongst authorities, but on the whole it seems probable that the tendency to spread is favoured by atmospheric humidity and absence of wind.

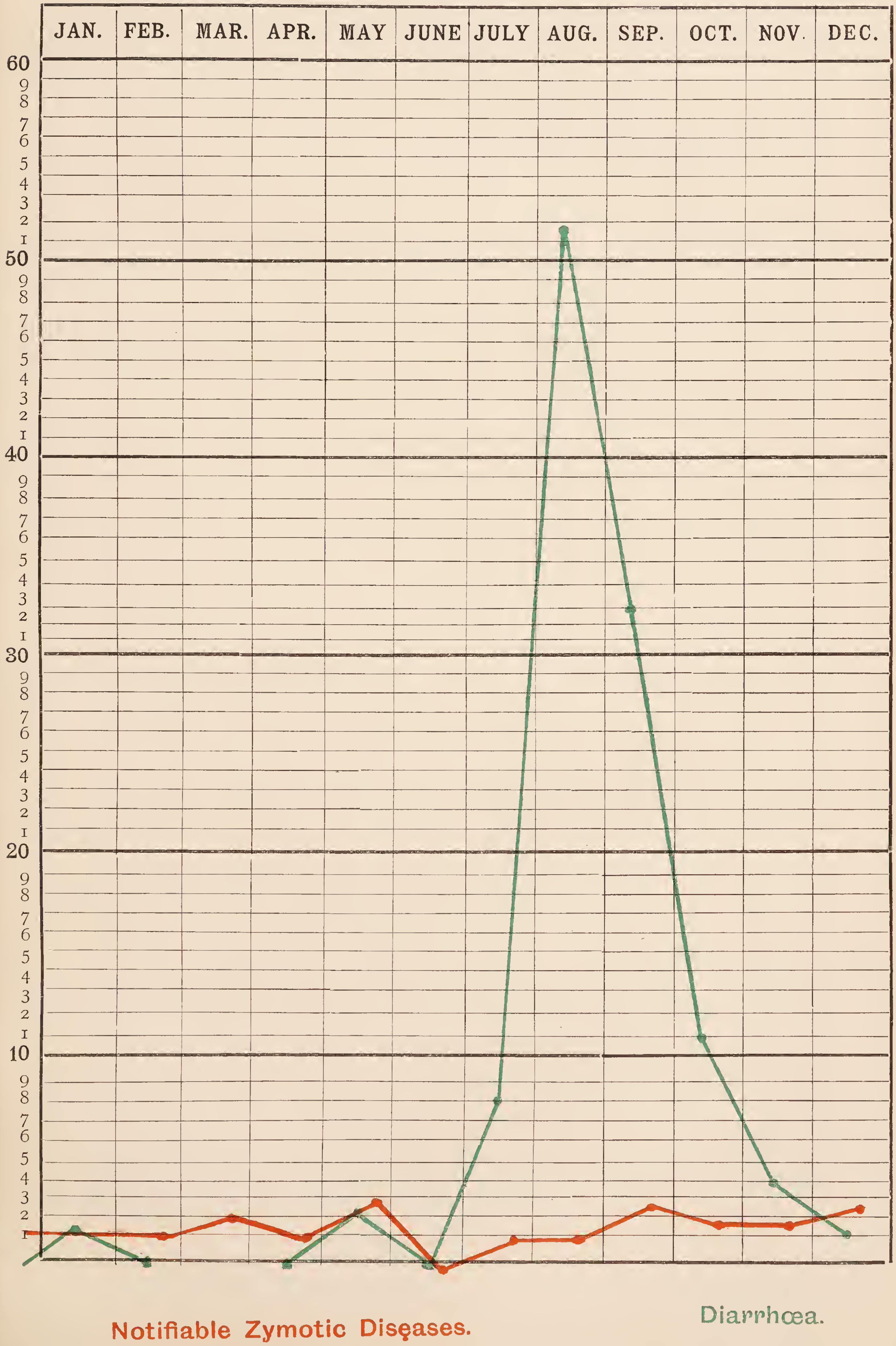
Scarlet Fever may occur at any age, but is rare under one year, and exceedingly so during the first three months, the most susceptible age being the fifth year, after which age the tendency to take the disease rapidly decreases, until it becomes almost extinct.

The popular fallacy, amounting almost to fatalism, that every child must have all the so-called diseases of childhood, is proved in this as in other diseases, since there is a double gain by preventing young children from getting it; the longer they escape the less likely are they to have it, and, if they do take it, the less danger there is to life the greater the age at which the attack comes on.

PLATE VI.

CHART SHEWING DEATHS EACH MONTH FROM DIARRHŒA CONTRASTED WITH DEATHS FROM NOTIFIABLE INFECTIOUS DISEASES.

1899.



TYPHOID FEVER.

31 cases were notified during the year with seven deaths; against 24 cases with four deaths in 1898, and 39 cases with seven deaths in 1897.

It is now generally acknowledged by authorities that the poison or infection of this disease is given off from the body in connection with the excretal discharges, and it is these which are so infectious.

Formerly it was considered that the bowel discharges were the only means by which the infection was carried, but recent investigations go to shew that it is carried in the urine as well.

Air does not appear to carry the typhoid poison under ordinary circumstances, but when bedding, clothing and other articles have become contaminated by the typhoidal discharges, and these have been allowed to dry and pulverise, there is no reason to doubt that the fever poison may be disseminated in this way.

The most common form in which the poison enters the body, however, is by the mouth, either in milk or water.

Sewer gases, emanations from drains and manure heaps, and other effluvia, are popularly credited with causing typhoid. Undoubtedly they indirectly tend to predispose to the disease by lowering the vital resistance, but unless the specific poison is contained in the air arising from these sources, they cannot directly cause typhoid fever.

It has been proved to demonstration, that as long as the bacilli remain in moisture, infection cannot be transmitted by air, except in the form of spray.

DIARRHŒA.

Epidemic diarrhœa has been very prevalent this year, causing no less than 111 deaths, of which 101 were under 5 years of age.

Epidemic diarrhœa causes so many deaths annually, that I think it may be advisable to quote pretty extensively from the report of Dr. Ballard to the Local Government Board in 1887.

Loose porous soil is most conducive to diarrhœa, especially if associated with organic fouling of the earth, whether animal or vegetable.

Both excessive wetness and excessive dryness of soil seems to lessen diarrhœal mortality, but a moderate degree of dampness of soil favors it.

NOTE.—Plate VI. should be compared with Plates I. and II. It bears out the statement made in the text on the subject of Diarrhœa.

The summer rise in the diarrhœa death rate does not commence until the mean temperature of the 4 foot soil thermometer has reached 56° F.

Rainfall has little influence, except by its effects on soil temperature.

Diarrhœa mortality is greater in dry seasons and less in wet ones.

Wind lessens the mortality, but calm stagnant days promote it.

The disease is more prevalent amongst the poor.

Many other causes are given, amongst which may be mentioned want of cleanliness, accumulations of filth, and want of ventilation and light.

The requirements of the Act regarding yard space should be strictly adhered to and all possible means should be used to prevent people covering in yards after buildings have been passed. No doubt the proposed new building bye-laws will tend towards this desired end, which would greatly influence the health of the Borough.

Food is closely concerned in the prevalence of diarrhœa, owing to its being contaminated with "some substance which of itself is an efficient cause of the malady."

Many investigators claim to have isolated the specific micro-organism of the disease. That it is a germ which causes it cannot be denied.

A very fruitful source of diarrhœa in this Borough is the abominable midden-privy with which many of the houses are supplied, and the method in which they are emptied, the refuse being shovelled out of the midden into the yard or back street or both, and then into the cart. If it be remembered how near many of the pantries, in which milk and food are stored, are to this filth heap when shovelled into the yard, the wonder is, not that there are so many cases of diarrhœa, but that there are not many more.

The only radical method of getting rid of midden privies, which must ever be a fruitful source of death and ill-health, is some such scheme as has been, I believe, adopted in Sunderland, to do away with all of them and supply water closets and the dry pan system, the Corporation to bear half the cost.

During the worst of the epidemic, I visited all the houses in which a death from diarrhœa had occurred and in no less than 83% found midden privies, most of them in a very foul condition.

It is utterly impossible for any Sanitary Authority, however vigilant and careful, to keep the premises clean, so long as the householders themselves are so indifferent and careless about their own premises.

I think, however, we can now look forward to a better state of things, and in this connection I cannot do better than copy the very able report by the Borough Engineer to the Health Committee on Nov. 1st. Mr. Brown says :—

> Now that we have commenced with the erection of a Destructor I would suggest that an improved system of house refuse collection should be adopted as far as possible.
>
> The present system is to cleanse the ashpits fortnightly and the pans weekly.
>
> The contents of both are discharged into a heap in the street, front or back as the case may be, and in either case the practice is at fault, since all the material having lain sufficiently long in the pit or pan as to permit of a state of fermentation, and then to be emptied out and turned over in the immediate vicinity of the dwelling houses, is a serious menace to the health of the people, not only those living in the neighbourhood, but those who may pass along the street, during, and a considerable time after operations.
>
> In addition to the danger to health, the stench caused is abominable, and no matter how well the scavengers may do their work there is a certain amount of filth left, which, in the case of paved surfaces, has to be washed away by the tenants of the houses, and on the macadam surface in front streets, time alone can remove the objection.
>
> This difficulty can very simply and readily be overcome where pans exist.
>
> The whole of the new buildings now erected have pans, and as the old privies and ashpits become dilapidated, they are, in nearly all cases, converted into pans, so that ultimately the town will have a water closet and dry pan system.
>
> The system, then, I would recommend, would be that of large specially constructed vans with compartments, which hold the pans, the doors opening from the sides, similar to the rough sketch which I now submit. (Sketch shewn).
>
> The van would start from the yard charged with cleansed empty pans and would pass along the streets, in the district to be cleansed, and for every full pan removed from the property, one of the cleansed and disinfected pans would be put in its place, the full pan being carried to a place in the van, in the condition in which it was taken from the property, and when the whole of the clean pans had been used the van would return to the depôt, discharge the full pans, reload a full number of cleansed and disinfected pans and go on its way again.

At the depôt there will be men to empty, cleanse, and disinfect the pans, to be in readiness for the succeeding vans.

This system, of course, would entail a sufficient number of vans and a duplicate set of galvanised iron pans. The work itself, however, would be done more economically, as it would be done in the day time so far as the property had pans, and perfect cleanliness would be observed.

There will be no stench created in the removal of the pans to the depôt since they will be closed up in the van, and there would be no stench created at the dwelling houses since the refuse would not be turned out of the pans, and consequently no filth left on the streets now caused by the emptying of the pans.

From a health point of view it is impossible to make a comparison, and while at first a little cost would be incurred to establish the system. I am perfectly certain the results would be so satisfactory that the Council would not wish to depart from it.

If such a system were in vogue, I think we may reasonably look forward to the mortality from diarrhœa being lessened by at least one half.

DIPHTHERIA AND MEMBRANOUS CROUP.

15 cases of Diphtheria have been notified with seven deaths, against 11 in 1898 with six deaths.

This disease seems to be on the increase through the country, and I think it might be the means of saving many lives and much suffering if the Health Committee kept a stock of Antitoxin, as is, I believe, done in some towns, for the use of Medical Practitioners.

I would also suggest that any medical man having a case of sore throat which he was doubtful about, could, at the expense of the Corporation, send a specimen of the throat secretions or membrane to the Clinical Research Association to be examined bacteriologically. This would enable precautions to be taken early in the disease, so that its spread may be stopped.

Note.—Upon Plate VII. it will be noticed the highest mortality from Influenza was in January and March. The death rate from Respiratory Diseases (Plate VIII.) thus rises in March, afterwards a decline in both curves is shewn. Similar curves are shewn in the case of Measles and Respiratory diseases, many of the Measles cases terminating fatally from some Respiratory disease.

PLATE VII.

CHART SHEWING CAUSES OF DEATHS EACH MONTH DUE TO NON-NOTIFIABLE INFECTIOUS DISEASES.

1899.

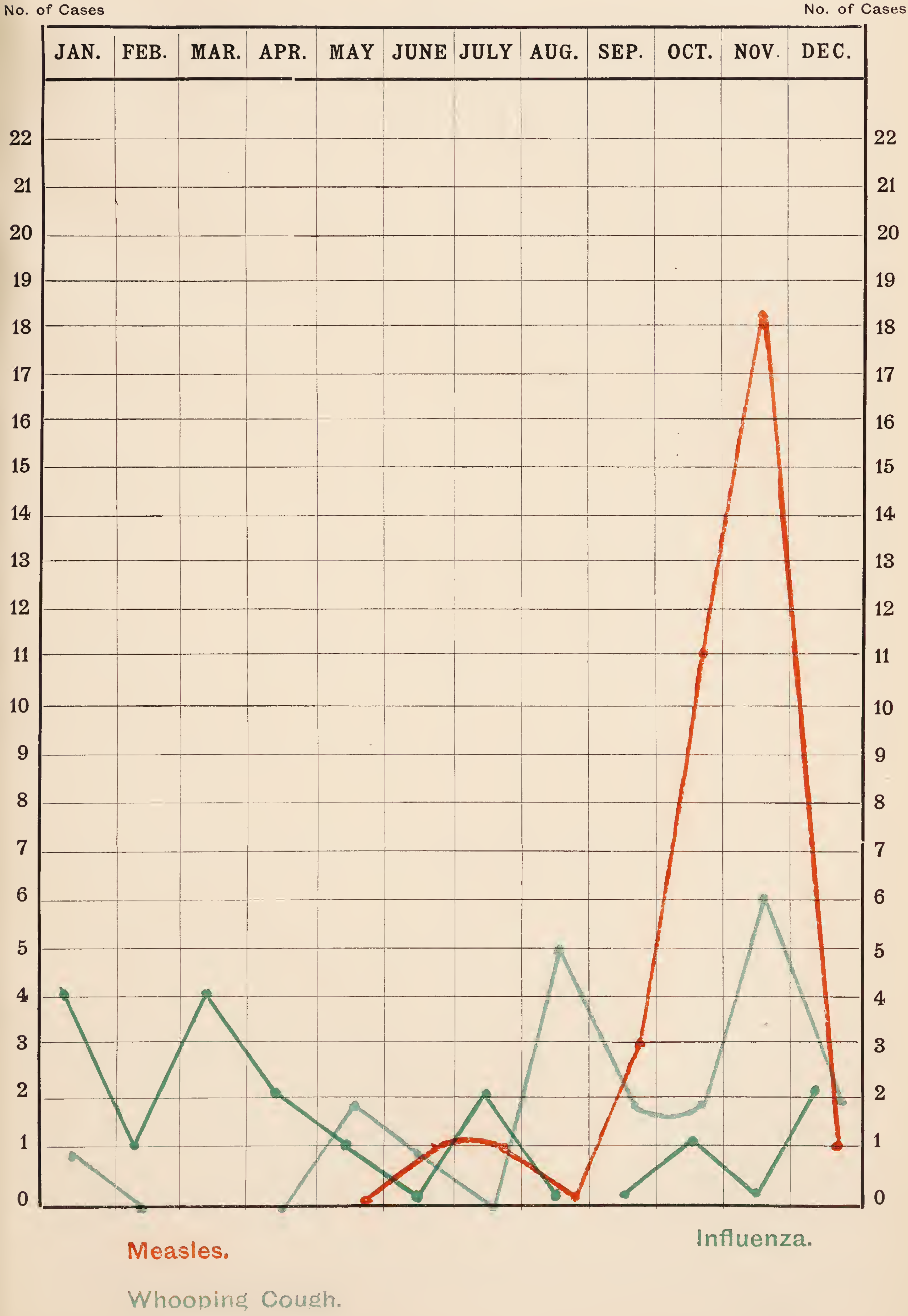
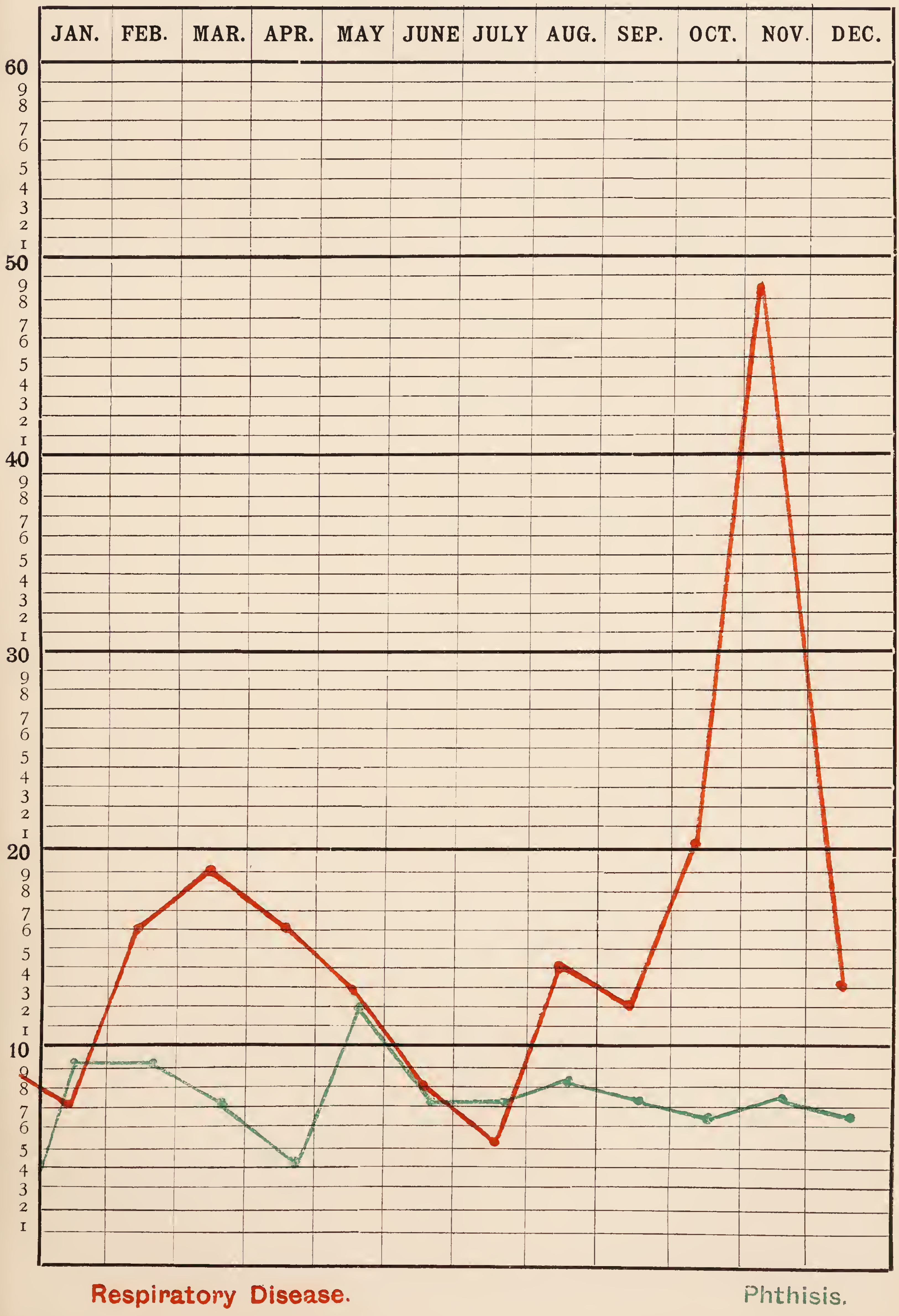


PLATE VIII.

CHART SHEWING DEATHS EACH MONTH FROM ALL RESPIRATORY DISEASES CONTRASTED WITH DEATHS FROM PHTHISIS.

1899.



MEASLES.

As this is one of the non-notifiable infectious diseases we have no means of estimating the number of cases in the year.

There have been 35 deaths from the disease this year against 1 in 1898, the highest mortality being in October and November, when a severe epidemic was raging, necessitating the closure of many of the schools.

This number of deaths gives us no idea of the ravages of the disease, as the majority of fatal cases have some complication in the respiratory organs, and many of them will thus be classified under this heading.

WHOOPING COUGH.

Epidemics of Measles and Whooping Cough very often go together, and this year has proved no exception, there having been 25 deaths from this disease against two in 1898.

Isolation for this disease and for Measles is seldom attempted, owing greatly to the prevalent but erroneous idea that it is necessary for all children to have them.

As both diseases are most fatal during the 1st and 2nd years of life, many lives could be saved annually if parents would learn that the older the child is when attacked the less likely is either of the diseases to be fatal.

PHTHISIS.

From this disease 87 deaths have been registered against 64 in 1898.

Many deaths, however, occur annually from other Tuberculous diseases, but it is impossible this year to estimate them as they have been classified under various headings. Next year I will be able to give them, as a register of deaths is now being kept under my own supervision.

Phthisis is one of the diseases which may justly be called infectious and preventable. The direct influence of heredity is small.

Once let it be known by a parent that it is by infection and not by inheritance that he may be a danger to his children, and he will take every precaution to prevent the spread of the disease.

Prevention rather than cure of disease is becoming more important every year, and in no disease is this more marked than in Phthisis, and when we consider that between 70,000 and 80,000 deaths occur annually from Phthisis in the United Kingdom, the importance of the question cannot be over-estimated.

The third Royal Commission on Tuberculosis has emphasised the fact that tuberculosis-infected milk is the chief source of infection, and especially dangerous when derived from milch cows whose udders are affected, and in which the disease spreads rapidly, a condition of things that would be improved by making all bovine udder disease compulsorily notifiable.

The great danger of tuberculosis-infected milk has also been emphasised by the late Sir Richard Thorne-Thorne in his Harben lectures.

The methods of preventing the spread of Phthisis are similar to those required to stop the spread of any other infectious disease, but special attention must be given to the purification of the air, and efficient ventilation, the admission of sunlight, drainage of the subsoil, and the prevention of damp in our houses.

To stop the spread of Tuberculosis by meat and milk, it is necessary that public abattoirs be provided, meat systematically inspected, the cubic space, light and ventilation of cow byres carefully regulated; that all milch cows be tested by Tuberculin, and that the killing of tuberculous cows be undertaken and faithfully carried out by the Sanitary Authority.

By means such as these the mortality from Tuberculosis has been reduced in New York from ·4·42 in 1886 to 2·85 in 1897, and similarly good results have followed in Brussels and Berlin.

The Rules (Appendix D) distributed at the Out-patient Department of the Victoria Hospital for Consumption, Edinburgh, are of such general utility, that I would suggest that the Health Committee have copies of them printed and sent to the various medical men for distribution among their patients.

DAIRIES, COWSHEDS, AND MILKSHOPS.

These have been visited during the year.

Bye-Law 4 in the Rules as to Dairies, Cowsheds, and Milkshops, states that:—" A person following the trade of a cowkeeper or dairyman shall cause every dairy and cowshed in his occupation to be sufficiently lighted by windows or openings in the roof or walls, and to be sufficiently ventilated by ventilators or by openings in the roof or walls."

In some cases the window space is insufficient, consequently the animals are deprived of light which is so essential for health.

From the remarks I have made on the subject of Tuberculosis it is evident that the importance to be attached to a pure and uncontaminated milk supply is of the utmost consequence.

The milk shops in the Borough are not all that could be wished, the milk being kept in many places quite unsuitable, in some instances standing in dirty little shops, on the same counter with fruit, vegetables, &c.

HOUSE REFUSE—REMOVAL AND DISPOSAL.

The present arrangements for the removal and disposal of house refuse are not satisfactory, but when the destructor is completed and the new system of removal of refuse is instituted, I look forward hopefully to a considerable abatement of the nuisances arising from the present system, and above all to a material improvement in the comfort and health of the inhabitants, especially in the poorer parts of the Borough where the inhabitants are so careless of the condition of their middens.

ABATTOIR.

The Public Abattoir situated in the South-East Ward, near the top of Burbank Street, covers an area of about an acre.

It was built about four years ago, and since that date no private slaughter houses have been licensed in the Borough.

All the slaughtering is done here, excepting a little at one private slaughter house in Seaton.

There is accommodation for about 60 beasts and 130 pigs, whilst about 200 sheep can be housed, but in summer, when they can stay outside, about 400.

During the year there were killed:—

Beasts	4,628
Sheep and Lambs	13,027
Calves	579
Pigs	6,838
	25,072

The inspection of meat has been systematically carried out. 28 carcases have been wholly or partially condemned, viz. :

6 beasts and the fore quarter of two condemned and destroyed as unfit for human food.

13 beasts slightly affected with Tuberculosis. The serous membranes were stripped off, the internal organs destroyed and the rest of the carcases passed.

Two Pigs died at the Abattoir. A post-mortem examination was made on them by the Veterinary Surgeon, who found they had suffered from swine fever ; they were therefore condemned and destroyed.

Five Pigs were condemned and destroyed.

A total of 26 whole carcases and 2 fore quarters.

This entailed a considerable number of visits, as in the slight cases of Tuberculosis many of the carcases were visited a second time for inspection after the serous membranes had been stripped off.

DISINFECTING APPARATUS.

The Apparatus in use in the Borough is the Washington-Lyons Steam Disinfector, with Alliot and Paton's improvements.

Steam is supplied by a 6 h.p. 3 tube vertical boiler, working at a pressure of 40 to 50 lbs.

The boiler is supplied with water from the Company's mains.

It is submitted for regular inspection, and is also cleaned out at regular intervals during the year.

The machine can be used in a variety of ways :—

(a) As a simple hot air oven with a current of hot air.

(b) As a low pressure steam disinfector.

(c) As a high ,, ,, ,,

(d) As a low ,, current machine.

(e) As a high ,, ,, ,,

Air and steam can be used in combination either with or without current.

FRUIT IMPORTED.

During the year two baskets of cherries and 71 baskets of plums were condemned at the Steam Navigation Warehouse as unfit for human food.

FOOD AND DRUGS.

62 Samples have been taken during the year.

The following amongst others are the chief samples that have been analysed during the year :—

Four Samples of Whiskey Two ,, ,, Rum	Both certified to be genuine.

Ten ,, ,, Milk, eight genuine and two slightly deficient in natural fat. Caution sent to seller.

Two Samples of Coffee adulterated with chicory to the extent of 60% and 70%. Proceedings taken resulted in fines of £2 and costs.

One Sample of Butter contained 8·45 water, and foreign fat 62·41%. Fine of £2 and costs.

Six Samples of Milk sent to Clinical Research Association for Bacteriological Examination. 10 of milk which the Borough Analyist certified to be pure. "All examined for preservatives, which proved to be absent."

Five Butter Five Lard	Genuine.

Five Milk free from preservatives.

Five Bread—Good quality. Free from alum.

Legal proceedings have resulted in £10 in fines and £2 2s. 6d. costs.

NUISANCES.

Legal proceedings have been taken in 19 cases. Fines, £3 and costs—£5 16s. 6d.

BURIAL GROUNDS.

The Cemetery situated at the North end of the town has an area of between 35 and 36 acres. There appear to be approximately about 11,500 spaces still unused, including the two sites which were originally intended for chapels.

The Corporation has, however, bought land at the South end of the town, about 60 acres in extent, to make a new cemetery.

COMMON LODGING HOUSES.

There are only five in number, but these have given considerable trouble during the year. The regulations have not been carried out as they should have been and proceedings have had to be taken in several cases.

They have all been visited, one was not kept so clean as it should have been, and in one the ventilation was deficient.

One was insanitary. The ventilation blocks were removed, therefore there was no ventilation at night. A notice was served on the keeper to conform to the Bye-laws.

In one case legal proceedings were instituted against a keeper for not complying with a notice to abate a nuisance. Fine, 20/- and costs.

Proceedings were taken in one case for overcrowding—50 persons sleeping there when it was only registered for 39. Fine, 13/- and costs.

Three were kept without being registered. Notices were served to apply to be registered, and two of them were sanctioned.

Rooms, in one house, not registered were occupied, and in the registered rooms too many occupants. Fines, 10/- and 20/- and costs. (See appendix I.)

BAKEHOUSES, LAUNDRIES AND FACTORIES.

Visits have been paid to these during the year, and they have been found to be generally satisfactory.

STRAY DOGS.

During the year 30 dogs have been brought into the shelter: of these 22 have been destroyed, three have been claimed and five sold.

In 1898, 143 dogs were brought, of which 59 were destroyed, 48 claimed and 36 sold; whilst during the seven months the order was in force in 1897, 134 dogs were dealt with, 54 being destroyed, 59 claimed and 21 sold.

It will be seen that altogether 135 dogs have been destroyed since the Rabies Order was enforced, which no doubt accounts for the absence of Rabies in the Borough.

STAFF.

The rapid growth of the town will soon render it absolutely essential that a fully-qualified Assistant Sanitary Inspector should be appointed, and it is gratifying to record that the Committee have acceded to my request for the appointment of a youth for the Health Department, with a view to his becoming qualified for such a position.

This will, in the meantime, enable the outside work to be carried on much more efficiently, as a great amount of the clerical work can be performed by him.

Borough of West Hartlepool.

SANITARY INSPECTOR'S REPORT

For the Year Ended 31st December, 1899.

To the Chairman and Members of the Health Committee.

Gentlemen,

I have the pleasure to present to you my Ninth Annual Report of the Works done, and of the operations of the Health Department during the year ending December 31st, 1899.

The 48 cases standing over from last year have all received attention and the notices complied with.

During the year, 929 Informal Notices have been served for the Abatement of 1,647 Nuisances. A number of these not having received the attention that was necessary, 213 Formal Notices had to be served, as resolved by you for their abatement.

As I have mentioned to you in previous reports, all these premises have to be visited many times before the work required to be done is complied with.

During the year, 165 offensive Privies have been converted, and, in some cases, re-constructed into water closets, and pan closets for dry ashes,

Number of Notices Served	1899. ANALYSIS OF NUISANCES DEALT WITH	Number of Nuisances Registered
35	To Trap Defective Drains	84
2	,, Dis-connect Sinks from Sewer	3
27	,, Other Faults	68
105	,, Cleanse Dirty Dwellings and Workshops...	105
31	,, Repair Yard Pavements	90
63	,, ,, Spouts and Fall Pipes	103
13	,, ,, Dwelling House Roofs	29
16	,, ,, Dilapidated Dwellings	36
1	,, ,, Urinals	1
19	,, Convert Privies into Water Closets ...	165
33	,, Abate Overcrowding	33
2	,, Houses Unfit for Habitation	2
2	,, Cleanse Common Lodging Houses ...	2
16	,, Repair Privies	48
30	,, ,, Ashpits	66
29	,, ,, Water Closets	32
3	,, Provide Additional Water Closets ...	3
33	,, Remove Accumulations of Manure ...	36
18	,, Cleanse Cow Sheds...	19
9	,, ,, Dairies and Milkshops	9
3	,, ,, Bakehouses	3
2	,, Remove Animals Improperly Kept ...	2
2	,, Abate Smoke Nuisances	2
202	,, Provide Dust Pans...	371
117	,, ,, Ashpit Doors	147
26	,, Clean out Soft Water Wells	97
59	,, Cease Throwing Slops into Ashpits ...	59
19	,, Remove Accumulation of Stagnant Water	19
12	,, Provide a Pure Water Supply	13
929		
213	Formal	
1,142		1,647

For the purpose of enforcing compliance in 19 cases legal proceedings had to be resorted to for the abatement of the same. In three cases Magistrates' orders were granted for the carrying out of the works required.

During the year 43 drains have been tested with the Smoke Testing Apparatus where complaints have been made of a serious nature, which have demanded much of your Inspector's time and attention; many of the complaints are made needlessly.

Twenty-eight cases are standing over awaiting completion.

FOOD AND DRUGS.

During the year I have obtained for the purpose of Analysis 62 samples, which have been submitted to the Public Analyst. All were found to have been of pure and good quality, except one margarine, which was sold as butter, the same not being properly marked and labelled, and two samples of coffee, one loose with 60 per cent. of chicory, and one in tin, labelled "French Coffee"—70 per cent. of chicory—labelled in small letters, "a mixture." The case was not considered one in which a conviction would be likely to follow, and it was, therefore, not proceeded with.

Two samples of Milk after analysis were found to be a little short of the standard, the deficiency, in each case, being too slight to proceed against. The parties were cautioned, by order of your Committee. One sample of Whisky after analysis was certified to be 45.70 degrees under proof, and one sample of Rum 44.13 degrees under proof, and it was resolved that proceedings be instituted. The Magistrates imposed a penalty of £5 and costs in the first case and £1 and costs in the second case.

FRUIT INSPECTION.

As in previous years constant attention has been given to the inspection of Fruit discharged from the Hamburg Boats at the "Steam Navigation" Warehouse.

142 stones of unsound plums were seized as unfit for human food, and the same were destroyed by order of a Magistrate. Four stones of unsound pears and five stones of cherries were also destroyed as unfit for food.

PUBLIC ABATTOIRS.

Special attention has been given to the Inspection of these premises, and also to the examination of Meat during the year.

The premises generally are kept in a fair, clean, and sanitary condition.

Six carcases and two quarters of beef affected with tuberculosis, and seven pigs, have been seized, condemned and destroyed as unfit for human food, as against four carcases of beef and two pigs in the previous year, 1898.

The animals slaughtered at the Abattoirs during the past two years are as follows;—

Year	Beasts	Sheep and Lambs	Calves	Pigs	Total
Ending Dec. 31st, 1899 ...	4,628	13,027	579	6,838	25,072
,, ,, 1898 ...	4,117	11,369	600	5,629	21,715
Increase during Year, 1899	511	1,658	—	1,209	3,357

WELLS.

Three samples of Water have been taken from wells, and, upon analysis, one was found to be slightly affected by surface drainage. The well was cleaned out and repaired, and, in due course, a further sample obtained, and, upon analysis, it was certified to be of good quality.

BOROUGH WATER SUPPLY.

Six samples of the Town Water Supply have been obtained for analysis during the year, and in each case the samples submitted have been certified to be pure and good.

FACTORIES AND WORKSHOPS.

These premises have received many visits and have been found on the various occasions in a fairly good condition. Where it has been found necessary that improved sanitary accommodation or cleansing was required notice has been served for that purpose.

COMMON LODGING HOUSES.

There are five Registered Common Lodging Houses in the Borough, against four last year. One keeper has been proceeded against for having the rooms in a dirty condition. Another keeper has been proceeded against twice for occupying unregistered rooms, overcrowding his house, and allowing persons to sleep in the kitchens, on being visited by P. C. Bell.

Police Constable Bell being appointed Inspector of Common Lodging Houses, strict attention has been given to these places and they are more often visited at nights, and must be the means of the bye-laws and regulations relating thereto being carried out more efficiently.

BAKEHOUSES.

These premises have received frequent visits and have been kept in a very clean condition.

MILK SHOPS.

There are now on the books 68 Registered Milk Shops, which are still on the increase, as I reported last year. There are far too many such places, and I again say there is no necessity for such a number, as purveyors with barrows and carts are continually passing through every street morning and evening, and, in my opinion, this has a tendency to over-ride the Dairies' and Milk Shops' Order.

COW SHEDS.

There are 18 Registered Cow Sheds within the Borough, which have been frequently visited, and, when it has been found necessary, notice has been served for work to be carried out or cleansing done. A great amount of ventilation has been added in several instances, as per Dr. Ainsley's recommendations.

SWINE FEVER.

During the year two suspected cases of Swine Fever were reported. In one case, where two pigs had died, upon a post mortem examination being made by the Veterinary Surgeon, the Board of Agriculture certified it not to be Swine Fever.

The other case was reported from Seaton Carew, where eleven pigs were ill, which was duly reported to the Board of Agriculture, and they certified the same to be Swine Fever, and ordered the whole of the pigs on the farm to be slaughtered and destroyed, which was done under the supervision of their Superintendent Inspector.

The farm premises at Stranton Grange and High Throston were also certified to be Swine Fever infected places.

INFECTIOUS DISEASES NOTIFIED.

The following Infectious Diseases have been notified during the year. Each house was inspected in the usual way and any defects found were given immediate attention.

The total number of cases notified were 118. One case of Scarlatina was withdrawn eight weeks after notification by the medical attendant, who then stated it was not a case of Infectious Disease as notified.

INFECTIOUS DISEASES' SUMMARY.

Scarlet Fever	41
Diphtheria	11
Erysipelas	28
Croup	4
Puerperal Fever	1
Continued Fever	2
Typhoid Fever	30
	117

Owing to a very severe epidemic of measles several schools had to be closed. The schools were thoroughly stoved and all floors and woodwork properly washed with strong disinfectants and limewash where suitable.

INFECTIOUS DISEASES NOTIFIED EACH MONTH.

	Scarlet Fever	Typh'id Fever	Diphtheria	Erysipelas	Croup	Puerpr'l Fever	Continued Fever	Total
January ...	...	3	...	...	...	...	...	3
February ...	1	1	...	2	1	...	...	5
March	4	1	1	2	1	...	...	9
April	6	2	2	2	...	...	...	12
May	3	1	...	1	...	...	...	5
June	2	2	1	4	...	...	...	9
July	3	5	...	...	...	...	...	8
August ...	1	4	1	1	...	...	...	7
September ...	9	3	1	...	...	...	...	13
October ...	8	4	1	4	1	1	...	19
November ...	3	3	3	7	...	...	...	16
December ...	1	1	1	5	1	...	2	11
	41	30	11	28	4	1	2	117

INFECTIOUS DISEASES REMOVED TO HOSPITAL.

Scarlet Fever	9
Typhoid Fever	7
	16

HOUSES FUMIGATED, &c.

121 Rooms have been Fumigated in 95 houses. Beds, bedding and all other articles likely to retain infection have been removed from 58 houses to the Corporation Disinfecting Chambers. A great many visits were made to cases of phthisis reported by the Registrar to your Medical Officer of Health. In the majority of cases the people would have no disinfecting done, saying the case did not require it and it was all unnecessary. Disinfectants and lime have been given free and brushes lent to the poor for the cleansing of their premises. Notices and instructions have been left at each house as in previous years.

BEDS, BEDDING & SUNDRIES DISINFECTED BY APPARATUS AND IN DWELLINGS.

Beds and Bedding	263
Bolsters and Pillows	291
Blankets, Counterpanes, &c.	490
Articles of Clothing	194
Sundry Small Articles	318
Carpets and Rugs	72
	1,628

Seventy-six articles, consisting of beds, blankets, mattresses and other sundries, have been destroyed.

INSPECTION OF PUBLIC ABATTOIRS, &c.

Visits made to	Abattoirs	261
,, ,,	Bakehouses	29
,, ,,	Workshops	147
,, ,,	Common Lodging Houses	155
,, ,,	Milk Shops	134
,, ,,	Cow Sheds	43
,, ,,	"Steam Navigation" Warehouse	75
		844

SCAVENGING.

In No. 1 and 2 Districts the Scavenging of the Borough during the Summer months called forth many complaints by reason of foul matter from privy middens being thrown into the streets, and from thence gathered up again to load into carts. Where these premises exist, and which unfortunately spread over a large part of the Borough, the present circumstances under which they are allowed to remain being such that it is impossible to procure their immediate abolition.

I have also had to report to you the unsatisfactory manner in which the Scavenging has been carried out, thus causing great inconvenience and offence where it should have been avoided, the contractor not getting round his districts in the specified time. On three occasions assistance had to be employed to overtake the work in arrears upon the terms of the contract.

During the last four years a large number of new streets have been added, with the out-offices all being on the water carriage system, and pans for ashes, which is far more sanitary and gives greater satisfaction wherever they are provided.

The appended table shews the number of loads removed during the year by the contractors and farmers, out of which 265 loads were removed by the Corporation

The collection of this foul matter should be done in a more satisfactory manner, and would be if the whole were under a water carriage system.

SUMMARY.

Month	Nos. 1 & 2 District		Total
	Removed by Contractor	Removed by Farmers	
January	1,605	43	1,648
February	1,449	72	1,521
March	1,563	36	1,599
April	1,377	60	1,437
May	1,501	26	1,527
June	1,434	44	1,478
July	1,313	31	1,344
August	1,358	13	1,371
September	1,289	67	1,356
October	1,602	23	1,625
November	1,742	58	1,800
December	1,532	19	1,551
	17,765	492	18,257

FOOD AND DRUGS ACT.

Articles	No. taken	Genuine	Doubtful	Adulterated	Cautioned by Committee	Summoned	Fines	Costs	Remarks
							£ s. d.	£ s. d.	
Milk	29	26	2	1	2	...	...	...	One sample of Milk taken out of Borough Boundary
Butter	8	7	...	1	...	1	2 0 0	0 9 6	
Lard	8	8	...	...	...	...	...	...	
Coffee	3	1	...	2	...	1	2 0 0	0 12 0	
Bread	5	5	...	...	...	...	...	...	
Rum	3	2	...	1	...	1	1 0 0	0 8 6	
Whiskey ...	3	2	...	1	...	1	5 0 0	0 12 6	
Ice Cream ...	3	3	...	...	...	...	...	...	
	64	54	2	6	2	4	£10 0 0	£2 2 6	

PROSECUTIONS BEFORE MAGISTRATES BY THE SANITARY AUTHORITY.

Date	Nature of Nuisance	Fines	Orders Made, &c.	Costs
		£ s. d.		£ s. d.
Feb. 20th	Dirty Condition, Common Lodging House	1 0 0		0 7 6
,, 27th	Neglecting to convert Privy into W.C. ...		Withdrawn—Work done in meantime ...	0 4 0
March 8th	,, provide a proper Drain ...		,, ,, ,, ,, ...	0 4 0
April 17th	Overcrowding Common Lodging House ...	0 10 0	,, ,, ,, ,, ...	0 8 6
,, ,,	Dirty Condition of Common Lodging House		,, ,, ,, ,, ...	0 7 6
July 17th	Neglecting to cleanse Dwelling House ...		Magistrates' Order made	0 12 0
,, ,,	,, ,, ,, ...		,, ,, ...	0 11 0
,, 24th	,, convert Privy into W.C. ...		Withdrawn—Work done in meantime ...	0 4 0
,, ,,	,, ,, ,, ...		,, ,, ,, ,, ...	0 4 0
,, ,,	,, ,, ,, ...		,, ,, ,, ,, ...	0 4 0
,, ,,	,, provide Sanitary Pan ...		,, ,, ,, ,, ...	0 4 0
Nov. 13th	,, convert Privy into W.C. ...		,, ,, ,, ,, ...	0 4 0
,, ,,	,, ,, ,, ...		,, ,, ,, ,, ...	0 4 0
,, ,,	,, ,, ,, ...		,, ,, ,, ,, ...	0 4 0
,, ,,	,, cleanse Dwelling House ...		Magistrates' Order made	0 11 0
,, 20th	,, provide Sanitary Pan ...		Withdrawn—Work done in meantime ...	0 4 0
,, ,,	,, convert Privy into W.C. ...		,, ,, ,, ,, ...	0 4 0
,, ,,	Occupying Un-registered Rooms, Common Lodging House	1 0 0	,, ,, ,, ,, ...	0 7 6
,, ,,	Overcrowding Common Lodging House ...	0 10 0	,, ,, ,, ,, ...	0 7 6
		£3 0 0		£5 16 6

MEAT, &c., DESTROYED AS UNFIT FOR THE FOOD OF MAN.

Carcases of Beef	...	6	and 2 Quarters.
,, Pigs	...	7	
		13	2

FRUIT.

Plums	1,988	lbs.
Pears	56	,,
Cherries	70	,,
	2,114	,,

I am, Gentlemen,

Your obedient Servant,

THOMAS WHEAT.

APPENDIX A.

County Analyst's Office, Darlington,
October 30th, 1900.

I HEREBY CERTIFY that I have analysed a sample of Water, marked 394, which I received from you on the 24th October, 1899, and that I find as follows:—

Colour and appearance in 2-ft. tube	Colourless and Clear.
Odour, when heated to 100° Fah....	Slightly Earthy.
Chlorine as Chlorides	8·6800 grains per gall.
Nitrogen as Nitrates	·3285 ,,
Ammonia	none
Albuminoid Ammonia	·0014 ,,
Oxygen Absorption	·0109 ,,
Injurious Metals	none
Total Solid Matter dried at 220° Fah.	72·1000 ,,

Microscopical Examination ... No Deposit from ½-gall. ... Satisfactory.

Observations.—I am of opinion that the said sample is a sample of good and wholesome drinking Water. It is absolutely free from sewerage matter. I do not attach any importance to the somewhat large proportion of total solid matter.

(Signed) W. F. KEATING STOCK, F.I.C.

APPENDIX B.

Chemical Laboratory, 73, Church Street,
West Hartlepool,
November 13th, 1899.

The following is the result of the analysis of your sample of Water, received on the 8th inst. from Thomas Wheat, marked No. 395.

Description of Sample	Good Sample.
Appearance in 2-ft. Tube...	Clear and Bright.
Smell, when heated to 100° Fah...	nil.
Chlorine in Chlorides	9·5500 grains per gall.
Phosphoric Acid in Phosphates ...	nil.
Nitrogen in Nitrates and Nitrites	nil.
Ammonia	·00084 ,,
Albuminoid Ammonia	·00112 ,,
Oxygen absorbed in 15 minutes at 80° Fah. ...	·00746 ,,
,, ,, 4 hours	·01406 ,,
Total Solid Matter dried at 212° Fah.	69·99955 ,,
Microscopical examination of deposit	Satisfactory.

(Signed) C. PHILIP WARNER, *Analyis*

APPENDIX C.

Clinical Research Association, Limited,
1, Southwark Street,
London Bridge, S.E.,
January 4th, 1900.

LABORATORY REPORT.

The specimen of Water, marked No. 397, received here on 29/12/99, has been duly examined, and I have been instructed to forward the following report thereon :—

Total Solid Residue (dried at 120° C.)	61·53	grains per gall.
Combined Chlorine	8·4	,,
Expressed as Common Salt	13·8	,,
Nitrogen as Nitrates	0·06	,,
Nitrates	nil.	
Saline Ammonia	0·001	,,
Albuminoid Ammonia	0·0006	,,
Oxygen required to Oxidise the Organic Matter	nil.	
Lead or Copper	nil.	

Observations.—A sample of Water very free from organic matter, but, of course, rather hard.

(Signed) C. H. WELLS.
Secretary of the Association.

APPENDIX D.

Rules for Consumptive Patients and those looking after them.

Consumption is a communicable disease.

It may pass from person to person. It may pass from one being to the other, or from one organ to another.

The source of infection is the expectoration of the consumptive. The great danger lies in the drying of the expectoration, and the blowing about of the dried infectious material.

The spread of consumption can be largely prevented. *If the succeeding directions be obeyed, there need be no serious danger in ordinary intercourse with patients. The breath of the consumptive is not directly infectious.*

The patient should expectorate into a jar or cup containing a tablespoonful of Carbolic Acid (1 to 20) or other disinfectant.

The vessel should be changed once in 12 hours, or oftener. It should be cleansed by being filled up with *boiling* water. The combined contents should be poured down the W.C.

The vessel should then be washed with *boiling* water.

When the patient is out of doors, he should carry a pocket spitting flask, such as Dettweiler's or the Victoria Hospital simpler model. The flask should be used and cleansed like the jar. The patient should never spit on the streets.

The patient should not use handkerchiefs for expectoration. If this ever has to be done, the handkerchief should be of inexpensive material, that it may be burned after use.

Squares of rag or paper, which may be used for convenience, should be similarly treated.

The expectoration should on no account be swallowed, for thereby the disease may pass to other organs.

Consumptive patients should avoid kissing.

Consumptive mothers should not suckle.

If expectoration has been accidentally deposited on the floor or other object, it should be wiped up and burned, and the surface of the object cleansed with strong antiseptic.

Rooms which have been long occupied by a consumptive patient should, before occupation by someone else, be carefully disinfected, as after other infectious disease.

Fresh air is the food of the lungs. Therefore, see that the lungs be not starved :—

(a) By Day—The patient should occupy as airy a room as possible. It must be scrupulously dry, and preferably removed from the ground. The window should be freely open. When able, the patient should be out of doors once or several times during the day. He must avoid over-effort and damp, or chill, which would counteract the benefit.

(b) By Night—He should sleep alone. The bedroom should be large and airy. The window should be kept open, less or more, according to the season.

APPENDIX E.

Advice to Parents upon the Diet and Management of Infants.

WASHING.

During the first four months of life the child should have a warm bath each night and morning, the temperature of the water being about 90° F., and the best soap only employed. At a later period cooler water should be used (80° to 75° F.). On each occasion the whole body should be thoroughly cleansed, especially in the folds of the skin, and thoroughly dried with a warm soft towel.

CLOTHING.

The child must be warmly clad in woollen or flannel garments, the neck, arms, and thighs being especially protected against exposure. Tight bandaging round the waist should be avoided. The napkins require to be examined frequently, and to be changed immediately they become damp.

SLEEP.

The child should be encouraged to sleep in a cot from birth, care being taken that the covering is sufficiently warm, and adjusted when disarranged. The infant should be taught from the earliest times to sleep at regular intervals. No soothing draughts must be employed except under strict medical supervision.

EXERCISE.

When the weather is fine the child should be taken out into the fresh air at least twice every day, care being taken to protect the body from the cold, and the head from the rays of the sun.

The bedroom must be large, light, and well ventilated, but draughts must be carefully guarded against.

SUCKLING.

If the mother be in good health and has sufficient milk, the infant should receive no other food until seven months old. For the first two months the breast should be given at regular intervals of two hours ; between the second and fourth month every two hours and a half ; and from the fourth to seventh month every three hours. The infant should be taught to abstain from food between the hours of 11 p.m. and 5 a.m., in order to ensure six hours' sleep both to itself and its mother. After each meal the nipple and breast must be carefully washed and dried, and any indication of soreness or abrasion should receive immediate attention. If the mother has not sufficient milk to nourish the child, or is unable to feed it at regular intervals, the breast must be supplemented by *cows' milk* properly diluted.

WEANING.

This should always be performed gradually, and if possible during the cool months of the year. *Cows' Milk*, sterilised and diluted with barley water, and occasionally thickened with some form of malted food, is the most convenient diet after the cessation of nursing.

ARTIFICIAL FEEDING OF INFANTS.

GENERAL RULES.

1. For the first six months of life the food should consist entirely of milk. After that period some form of farinaceous food may be required.

2. *Cows' milk*, being cheap and easily obtained, is most suitable in ordinary cases. Under certain conditions, however, asses' or goats' milk may be preferred.

3. Young infants are unable to digest pure cows' milk, owing to its extreme richness and its tendency to produce large masses of curd in the stomach. In all cases, therefore, the fresh milk must be suitably diluted with barley or rice water.

4. The milk should be given every two hours during the first two months and subsequently every two and a half or three hours, except between the hours of 11 p.m. and 5 a.m., when the child should be encouraged to sleep.

5. As soon as the bottle has been emptied, it should be removed, and the child's mouth carefully wiped with a piece of soft rag soaked in warm water. The child should never be permitted to sleep with the teat in its mouth.

The Milk :—A fresh supply of milk should be procured twice a day, but only in quantities requisite for immediate use. The slightest degree of acidity, as evidenced by the red coloration of a piece of blue litmus paper, renders the milk unfit for use. Immediately the milk is received it should either be well boiled or sterilised, and afterwards kept in a cool place.

Sterilisation :—This is most conveniently effected by filling three or four feeding bottles with the quantity of diluted milk appropriate for each meal, and firmly plugging their mouths with cotton wool. The bottles are then placed upright in a small saucepan containing water, and the whole placed upon the fire and boiled for forty minutes. When required for use the bottles are immersed in hot water, in order to warm their contents to the temperature of the body, the cotton-wool withdrawn, and a clean india-rubber teat fixed over the mouth.

Condensed Separated Milk :—This contains only one-tenth the amount of fat (cream) of cows' milk, and is therefore *quite unsuitable as a food for infants. Ten half-pound tins* require to be purchased to obtain the same amount of fat as in *one pint* of good new milk.

The Feeding Apparatus :—This must be as simple as possible and capable of being easily and thoroughly cleaned. All that is necessary is an oval bottle of sufficient capacity and provided with a soft india-rubber teat which can be drawn over the neck. It is wise to keep at least four of these bottles in constant use. Immediately after a meal the teat is disconnected, turned inside out and well scrubbed with a clean tooth brush. It is then placed in a solution of boracic acid, care being taken to rinse it well in cold water before its next term of duty. The bottle itself is well cleaned, and if necessary boiled in a weak (one per cent.) solution of soda, and kept filled with some mild antiseptic until again required,

SCHEME OF DIET.

For the First Week of Life.

Cows' milk, 1 tablespoonful ; thin barley water, 1 tablespoonful ; milk sugar, 15 grains (or as much as would cover a threepenny-piece) ; *or*

Whey, 3 teaspoonsful ; cream, 2 teaspoonsful ; milk sugar, 10 grains ; hot water, 3 teaspoonsful.

Every two hours.

From the Second to the Fourth Week.

Cows' milk, 2 tablespoonsful; barley water, 2 tablespoonsful; cream, 2 teaspoonsful; milk sugar, 30 grains; *or*

Cows' milk, 2 tablespoonsful; cream, 2 teaspoonsful; milk sugar, 15 grains; water, 2 tablespoonsful.

Every two hours.

From the Fourth to the Eighth Week.

Cows' milk, 9 teaspoonsful; barley water, 6 teaspoonsful; cream, 2 teaspoonsful; milk sugar, 30 grains; water, 1 tablespoonful; *or*

Cows' milk, 2 tablespoonsful; cream, 1 tablespoonful; sugar of milk, 30 grains; water, 10 teaspoonsful.

Every two hours.

From the Third to the Sixth Month.

Cows' milk, 5 tablespoonsful; barley water, 1½ tablespoonsful; milk sugar, 60 grains; cream, 5 teaspoonsful; water, 2½ teaspoonsful; *or*

Cows' milk, 5 tablespoonsful; cream, 1 tablespoonful; milk sugar, 60 grains; water, 2 tablespoonsful.

Every three hours.

From the Seventh to the Tenth Month.

(Five meals a day).

First Meal (7 a.m.)—Cows' milk, 13 tablespoonsful; cream, 1 tablespoonful; milk sugar, 60 grains; water, 2 tablespoonsful.

Second Meal (10.30 a.m.)—Add to the foregoing one tablespoonful of malted food.

Third Meal (2 p.m.)—Same as second.

Fourth Meal (6 p.m.)—Ditto.

Fifth Meal (10 p.m.)—Same as first.

From Tenth to Twelfth Month.

Five meals a day, with addition of the yolk of an egg, stale bread crumbs, oat meal, or wholemeal flour occasionally.

INFECTIOUS DISEASES.

Instructions for preventing the spread of Scarlet Fever, Typhoid Fever, Smallpox, and other Infectious Diseases.

To Mr..*of*..

It having been reported to the West Hartlepool Corporation that a case of...has occurred on the premises occupied by you, at the above address, you are informed that you should—

1. Separate the sick person from the rest of the family, and remove carpets, curtains, and other unnecessary woollen or linen articles from the sick room.

2. Admit fresh air by opening the upper window-sash. Keep the fire lighted, even in summer, to promote ventilation. Allow air to pass freely through the house by means of open windows and doors. Keep the door of the sick room shut.

3. Hang up a sheet outside the door of the sick room, and keep it wet with a quarter-pint of carbolic acid (No. 4), mixed in a gallon of water.

4. Receive all discharges from the patient into a solution of carbolic acid. Add carbolic acid plentifully to the discharges before emptying them into the closet.

5. Pour daily into every sink, closet, or privy, a quantity of the above-named disinfectant.

6. All cups, glasses, spoons, etc., used by the patient, should be first washed in the solution of carbolic acid or sanitas, and afterwards in boiling water.

7. No article of food should be allowed to remain in the room. Any food left by the patient should be burned.

8. All bed and body linen used by the sick person should be at once steeped for a few hours in any of the above-mentioned solutions and afterwards BOILED in water.

9. Instead of handkerchiefs small pieces of rag should be used, and these should be burned when soiled.

10. Persons attending on the sick should wear garments made of cotton or other washable material. Woollen dresses should not be worn. The attendants should wash their hands after waiting on the sick person, using carbolic soap.

11. The sick room must on no account be visited by others than those in immediate attendance on the sick, as visitors are very liable to carry away infection.

12. When recovering, and while the body of the patient is peeling, camphorated or carbolised oil should be rubbed over the sick person every day. The sick person must not be allowed to mix with the rest of the family until the peeling has entirely ceased.

13. Before patients finally leave the sick room they should be carefully washed all over in a bath containing a little carbolic acid, they may then leave the sick room, wrapped only in a clean blanket, so that their clean clothes are not exposed to infection.

14. When the sickness has terminated, the sick room should be cleansed, and information sent to the Health Office, when an Inspector will attend and thoroughly fumigate the place, and disinfect all clothing that has been in use in the sick room. Afterwards, the room should be freely ventilated, and the ceiling lime-washed, the paper stripped from the walls and burned; if the walls have been previously lime-washed, the lime-washing should be repeated; and the furniture and all wood-work washed with carbolic soap and water. All bedding and articles that can not be washed and boiled must be disinfected at the Corporation Disinfecting Chamber. Until this process of disinfection is properly carried out the room cannot be safely occupied.

15. Children must on no account be allowed to attend school from a house in which there is infectious disease.

16. In case of death, the body should not be removed from the room, except for burial, unless taken to a mortuary, nor should any article be taken from it until disinfected, as directed in Rule 14. The body should be quickly put into a coffin, with 2lbs. of carbolic acid powder. The coffin should be fastened down and the body buried without delay.

N.B.—Carbolic Acid and other disinfectants may be bought of any Druggist, or may be had gratis at the office of the Sanitary Inspector, Municipal Buildings, by those who cannot afford to buy them.

PENALTIES.

Attention is particularly directed to the following provisions of the Public Health Act in reference to "Infectious Diseases."

1. The owner or occupier may be required to lime-wash and cleanse any house or rooms, and the articles in it likely to retain infection—where infectious disease has existed—under a penalty not exceeding 10/- a day for neglect.

2. If any person suffering from any dangerous infectious disorder shall enter a cab or other public conveyance without informing the driver thereof that he is so suffering, he shall be liable to a penalty not exceeding £5.

3. Any person suffering from any dangerous infectious disorder—such as fever, scarlet fever, small pox, etc.—who exposes himself in any street, school, church, chapel, theatre, or other public place, or in any omnibus or other public conveyance, and any person in charge of one so suffering, who so exposes the sufferer, shall be liable to a penalty not exceeding £5.

4. Any person who, without previous disinfection, gives, lends, sells, or moves to another place, or exposes any bedding, clothing, rags, or other things which have been exposed to infection, becomes liable to a penalty not exceeding £5.

5. Any person who lets a house, room, or part of a house, in which there has been infectious disease, without having such house or room, and all articles therein liable to infection, disinfected, is liable to a penalty not exceeding £20.

6. If any person who lets or shows for hire any house or part of a house, makes any false statement as to the fact of there being in such house, or having, within six weeks previously been therein, any person suffering from an infectious disease, such person answering falsely shall be liable to imprisonment, with or without hard labour, to a penalty not exceeding £20.

Fred. H. Morison, M.D., D.P.H.,
Medical Officer of Health.

Thos. Wheat,
Sanitary Officer,
Municipal Buildings,
West Hartlepool.

APPENDIX G.

Health Department,
Municipal Buildings.
West Hartlepool.

I have to inform you that the following Scholars attending the

....School, viz.:

....

...................suffering from..fever.

You are respectfully requested by the Health Committee to exclude ....and all the other children living at the above address, from your school for six weeks, or until a medical Certificate has been given to you stating that the house is free from infectious disease.

Yours truly,
FRED H. MORISON,
Medical Officer of Health.

To the Clerk,
West Hartlepool School Board.

APPENDIX H.

On the termination of the Case of Sickness the Occupier or other Person in charge of the premises is requested to obtain the signature of the Medical Attendant to the following certificate, and forward it to the Sanitary Officer, when the Disinfector will attend at his earliest convenience.

To the Sanitary Inspector, West Hartlepool.

Dear Sir,

I Hereby Certify, that the Premises, Bedding, &c., of.......................

at No..are now ready for final disinfection

after...

(Signature of the Medical Attendant) ....

Dated............................day of..................................

APPENDIX I.

REPORT OF THE INSPECTOR OF COMMON LODGING HOUSES.

County Police Office,
West Hartlepool,
March 2nd, 1900.

Sir,—I beg to state for your information that there are five Registered Lodging Houses in this Borough, viz. :

Edward McCarty, York Street...	...	Registered for	28
Owen McCabe, Rokeby Street ...	...	,,	24
Thomas Kilgallen, South Street	...	,,	33
Bernard McKernan, Park Street	...	,,	38
Thomas Braxton, South Street...	...	,,	15

The Registered Houses have been conducted in a satisfactory manner, except that of Bernan McKernan, whom I have twice reported to the Committee for overcrowding, and on both occasions proceedings were taken which led to Convictions.

I have visited each of the above-named houses twice daily, and occasionally at nights after midnight.

In addition to the houses mentioned, there are four which are not registered, admitting from 12 to 24 lodgers.

I would respectfully suggest that these houses be registered in order that they may come under my official supervision.

I am, Sir,
Respectfully yours,
THOS. BELL, P.C. 440,
Inspector of Common Lodging Houses.

Dr. Morison.

BRITISH MUSEUM
30 APR 65

APPENDIX J.

TABLE OF DEATHS during the year 1899, in the West Hartlepool Urban District, classified according to DISEASES, AGES, *and* LOCALITIES.

NAMES OF LOCALITIES adopted for the purpose of the Statistics; public institutions being shown as separate localities. *(Columns for Population and Births are in Table K).* *(a)*	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES. At all ages. *(b)*	Under 1 year *(c)*	1 and under 5 *(d)*	5 and under 15 *(e)*	15 and under 25 *(f)*	25 and under 65 *(g)*	65 and upwards *(h)*	*(i)*	MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE. 1 Smallpox	2 Scarlatina	3 Diphtheria	4 Membranous Croup	FEVERS. 5 Typhus	6 Enteric or Typhoid	7 Continued	8 Relapsing	9 Puerperal	10 Cholera	11 Erysipelas	12 Measles	13 Whooping Cough	14 Diarrhœa and Dysentery	15 Rheumatic Fever	16 Phthisis	17 Bronchitis, Pneumonia, & Pleurisy	18 Heart Disease	19 Influenza	20 Injuries	21 All other Diseases	22 TOTAL
NORTH WARD	107	50	18	2	6	21	10	Under 5	...	...	1	...	...	...	...	...	...	...	...	4	2	9	...	...	10	...	...	...	43	69
								5 upwds	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	9	6	7	3	1	11	38
WEST WARD	135	51	26	9	3	34	12	Under 5	...	...	1	...	...	...	1	...	...	...	...	4	3	11	...	...	23	...	1	1	33	78
								5 upwds	...	...	1	...	...	2	...	...	...	...	...	...	...	...	1	12	10	8	2	1	20	57
PARK WARD	117	46	25	5	2	19	20	Under 5	...	...	...	...	...	...	...	...	...	...	...	4	3	15	...	2	14	...	...	...	33	71
								5 upwds	...	...	1	1	...	1	...	...	...	...	...	...	...	2	...	9	3	7	3	2	17	46
SOUTH-WEST WARD	180	69	31	9	6	42	23	Under 5	...	...	...	...	...	...	...	...	...	...	...	3	9	29	...	2	19	...	...	...	47	100
								5 upwds	...	...	1	...	...	1	...	...	...	...	...	...	...	4	...	11	12	8	5	1	37	80
SOUTH-EAST WARD	190	65	38	7	16	42	22	Under 5	...	1	...	...	...	...	...	...	...	. .	...	10	2	25	...	1	20	...	...	1	42	102
								5 upwds	...	...	...	...	...	3	...	...	...	...	...	...	...	4	...	17	17	13	...	6	28	88
CENTRAL WARD	198	73	36	6	12	46	25	Under 5	...	...	1	...	...	...	...	...	...	...	...	7	5	15	...	...	24	2	...	2	53	109
								5 upwds	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	15	16	10	2	5	40	89
NORTH-EAST WARD	86	25	6	5	4	34	12	Under 5	...	...	...	...	...	...	...	..	...	...	...	2	1	...	...	1	9	...	...	1	17	31
								5 upwds	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	7	8	9	1	7	23	55
SEATON WARD	40	11	8	1	...	12	8	Under 5	...	...	...	...	...	...	...	...	...	...	...	...	...	·6	...	...	7	...	...	1	5	19
								5 upwds	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	3	4	...	3	9	21
TOTALS ..	1053	390	188	44	49	250	132	Under 5	...	1	3	...	...	...	1	..	...	...	...	34	25	101	...	6	126	2	1	6	273	579
								5 upwds	...	...	3	1	...	7	...	...	2	...	...	1	...	10	1	81	75	66	16	26	185	474

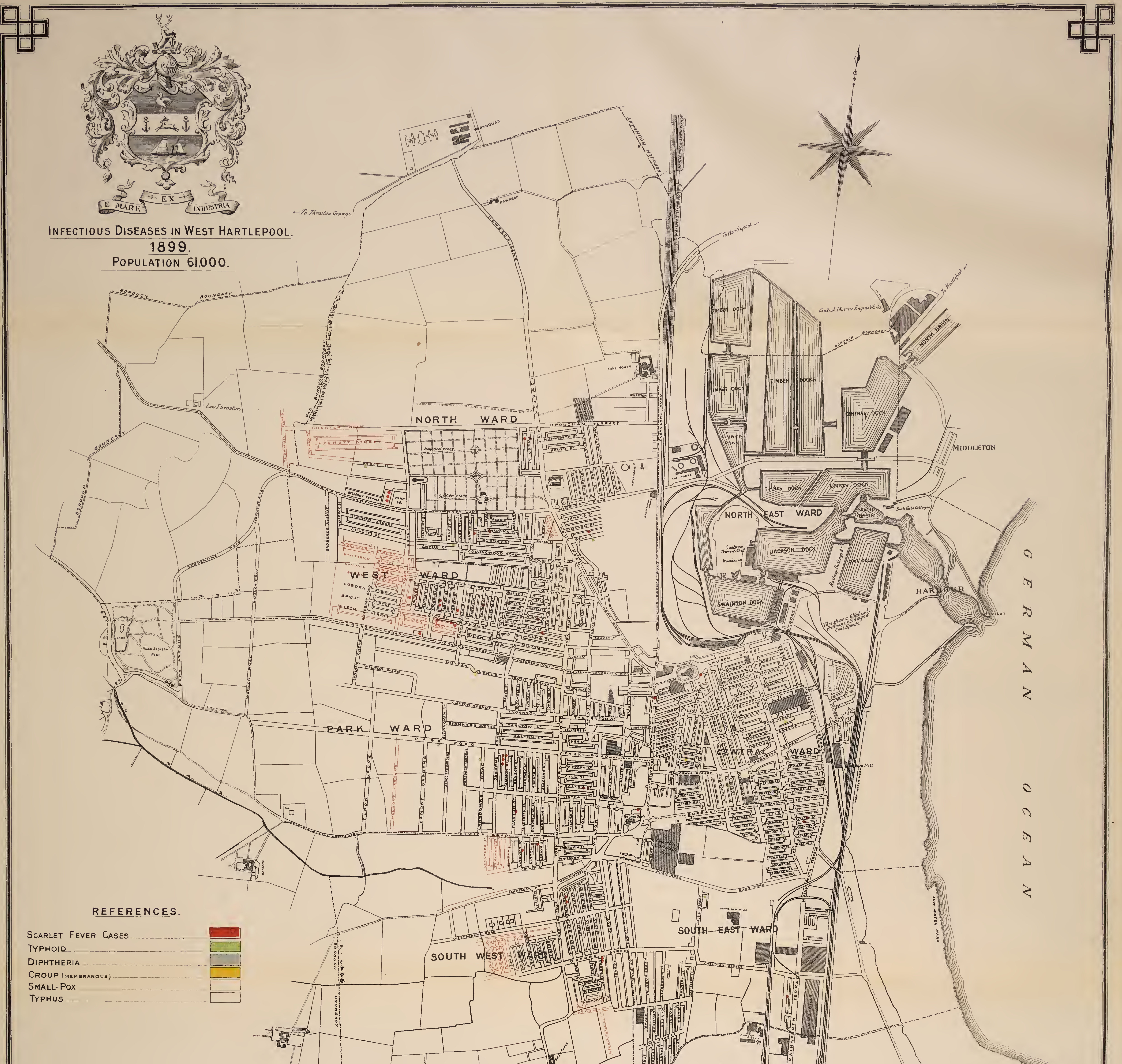
THE SUBJOINED NUMBERS HAVE ALSO TO BE TAKEN INTO ACCOUNT IN JUDGING OF THE ABOVE RECORDS OF MORTALITY.

Deaths occurring outside the district among persons belonging thereto.	75	4	2	1	8	37	23	Under 5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	6
								5 upwds	...	..	...	...	...	3	...	...	...	...	...	...	...	...	...	8	4	10	1	10	33	69
Deaths occurring within the district among persons not belonging thereto	6	3	1	...	...	2	...	Under 5	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	3	4
								5 upwds	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	2

APPENDIX K.

TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS, *coming to the knowledge of the Medical Officer of Health, during the year 1899, in the West Hartlepool Urban District, classified according to* DISEASES, AGES, *and* LOCALITIES.

NAMES OF LOCALITIES adopted for the purpose of these Statistics; public institutions being shown as separate localities.	POPULATION AT ALL AGES.		Registered Births	Aged under 5 or over 5	NEW CASES OF SICKNESS IN EACH LOCALITY COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH													NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES IN THE SEVERAL LOCALITIES FOR TREATMENT IN ISOLATION HOSPITAL												
	Last Census	Estimated to middle of 1899			1	2	3	4	5	6	7	8	9	10	11	12	13	1	2	3	4	5	6	7	8	9	10	11	12	13
					Smallpox	Scarlatina	Diphtheria	Membranous Croup	FEVERS. Typhus	Enteric or Typhoid	Con-tinued	Relaps-ing	Puer-peral	Cholera	Erysipelas			Smallpox	Scarlatina	Diphtheria	Membranous Croup	FEVERS. Typhus	Enteric or Typhoid	Con-tinued	Relaps-ing	Puer-peral	Cholera	Erysipelas		
(a)	(b)	(c)	(d)	(e)																										
NORTH WARD	...	7,672	288	Under 5	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
				5 upwds	...	5	...	...	...	2	...	...	1	...	1	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...
WEST WARD	11,975	10,159	364	Under 5	...	3	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
				5 upwds	...	6	4	...	...	2	...	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
PARK WARD	...	8,425	237	Under 5	...	2	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
				5 upwds	...	9	2	1	...	5	1	...	...	...	5	...	...	...	5	...	...	...	1	...	...	...	...	...	...	...
SOUTH-WEST WARD	6,760	10,290	369	Under 5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
				5 upwds	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
SOUTH-EAST WARD	7,042	8,221	293	Under 5	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
				5 upwds	...	6	2	...	...	9	...	...	...	...	5	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
CENTRAL WARD	9,920	9,497	329	Under 5	...	2	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
				5 upwds	...	2	...	1	...	8	...	...	...	...	6	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...
NORTH-EAST WARD	4,850	4,586	112	Under 5	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
				5 upwds	...	1	...	...	...	1	...	...	...	...	2	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
SEATON WARD	2,163	2,150	71	Under 5	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
				5 upwds	...	1	...	...	...	3	...	...	...	...	1	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...
NOTE.—Since last Census the Wards have been re-arranged																														
TOTALS ..	42,710	61,000	2,063	Under 5	...	11	3	2	...	1	...	...	..	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
				5 upwds	...	30	8	2	...	30	2	...	1	...	28	...	...	...	8	...	..	...	7	...	...	...	...	...	...	...



INFECTIOUS DISEASES IN WEST HARTLEPOOL,
1899.
POPULATION 61,000.

REFERENCES.

- SCARLET FEVER CASES 🟥
- TYPHOID 🟩
- DIPHTHERIA ▨
- CROUP (MEMBRANOUS) 🟨
- SMALL-POX ☐
- TYPHUS ☐

Borough of West Hartlepool
STREET MAP.

Published by order of the Council,

J. W. BROWN, C.E., F.G.S., BOROUGH ENGINEER & SURVEYOR.

SCALE

Feet 0 200 400 800 1200 1600 2000 2640 Feet

B. T. ORD, LITHO., WEST HARTLEPOOL

ROYAL STATISTICAL SOCIETY
2 - APR.1900